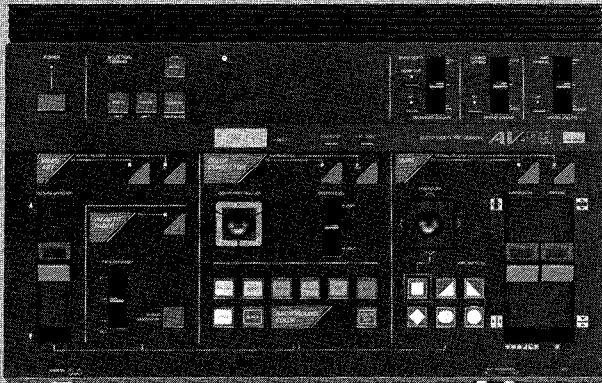


# SERVICE MANUAL

AUDIO VIDEO PROCESSOR

## SANSUI AV-99



### CAUTION

1. Parts identified by the  $\Delta$  symbol on the schematic diagram and the parts list are critical for safety. Use only replacement parts that have critical characteristics recommended by the manufacturer.
2. Make leakage-current or resistance measurements to determine that exposed parts are acceptably insulated from the supply circuit before returning the appliance to the customer.

### •SPECIFICATIONS

#### Video section (VCR-A/B, CAMERA)

##### VIDEO INPUT sensitivity/Impedance

1.0 Vp-p/75 ohms  
(unbalanced)

##### VIDEO OUTPUT level/Impedance

1.0 Vp-p/75 ohms  
(unbalanced)

##### Frequency response (video signal)

5 Hz ~ 7 MHz -2 dB

##### AUDIO INPUT sensitivity/Impedance

-6 dBs/47 kohms

##### AUDIO OUTPUT level/Impedance

-6 dBs/less than 10 kohms

##### Frequency response (audio signal)

MONITOR (AUDIO) OUTPUT  
20 Hz ~ 100 kHz -3 dB

##### Video signal system

NTSC color signal

#### Audio section

##### Input sensitivity/Impedance

AUDIO INPUT 150 mV/47 kohms

MIC 0.5 mV/10 kohms

##### Frequency response

AUDIO INPUT → AUDIO OUTPUT (VCR, MONITOR)  
20 Hz ~ 100 kHz -3 dB

##### Output level/Impedance

150 mV/less than 10 kohms

##### Maximum output level

1V/less than 10 kohms

#### Camera terminal

##### Power consumption

7 watts (maximum)  
12V DC  
Round 10-Pin J type

#### Others

##### Power requirements

120/220/240V  
50/60 Hz

For U.S.A. and Canada

120V (60 Hz)

##### Power consumption

50 watts (with camera)

##### Dimensions

430 mm (16-15/16") W

103 mm (4-1/16") H

285 mm (11-1/4") D

##### Weight

4.1 kg (9.0 lbs) net

5.1 kg (11.2 lbs) packed

\* Design and specifications subject to changes without notice for improvements.

**Sansui**

SANSUI ELECTRIC CO., LTD.

## CAUTION

1. The symbols, UL, CSA, SA, BS, UK, EU, AS, XX <EXPORT> and XX-V <EXPORT(V)> on the parts list and the schematic diagram mean followings respectively.

UL.....	Manufactured for U.S.A market. (Underwriters Laboratories approved model.)
CSA .....	Manufactured for Canadian market.
SA.....	Manufactured for South African market.
BS, UK.....	Manufactured for United Kingdom market.
EU .....	Manufactured for European market.
AS.....	Manufactured for Australian market.
XX <EXPORT> .....	Standard Version with Inner Voltage Selector.
XX-V <EXPORT(V)> ....	Standard Version with Outer Voltage Selector.
NON MARK .....	Common Parts.

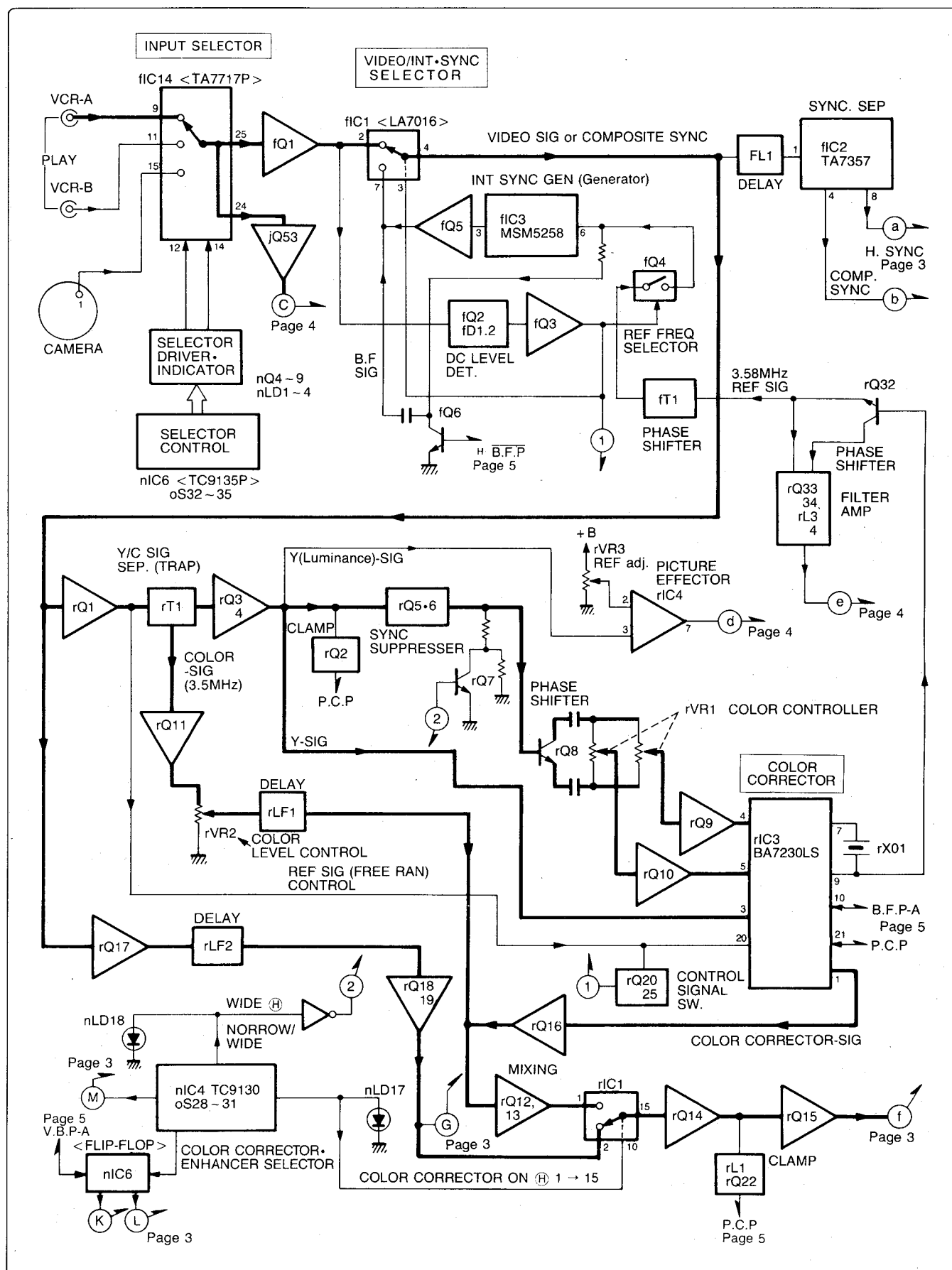
2. Some printed circuit boards are not supplied as the assembled.  
To separate these in this service manual, the stock No's are not indicated at the ends of the board names. However, the individual parts on the circuit boards are provided by orders.
3. Since some of capacitors and resistors are omitted from parts lists in this service manual, refer to the Common Parts List for capacitors & resistors, which was issued on February 1983.
4. Abbreviations in this service manual are as follows.

### •Abbreviations List

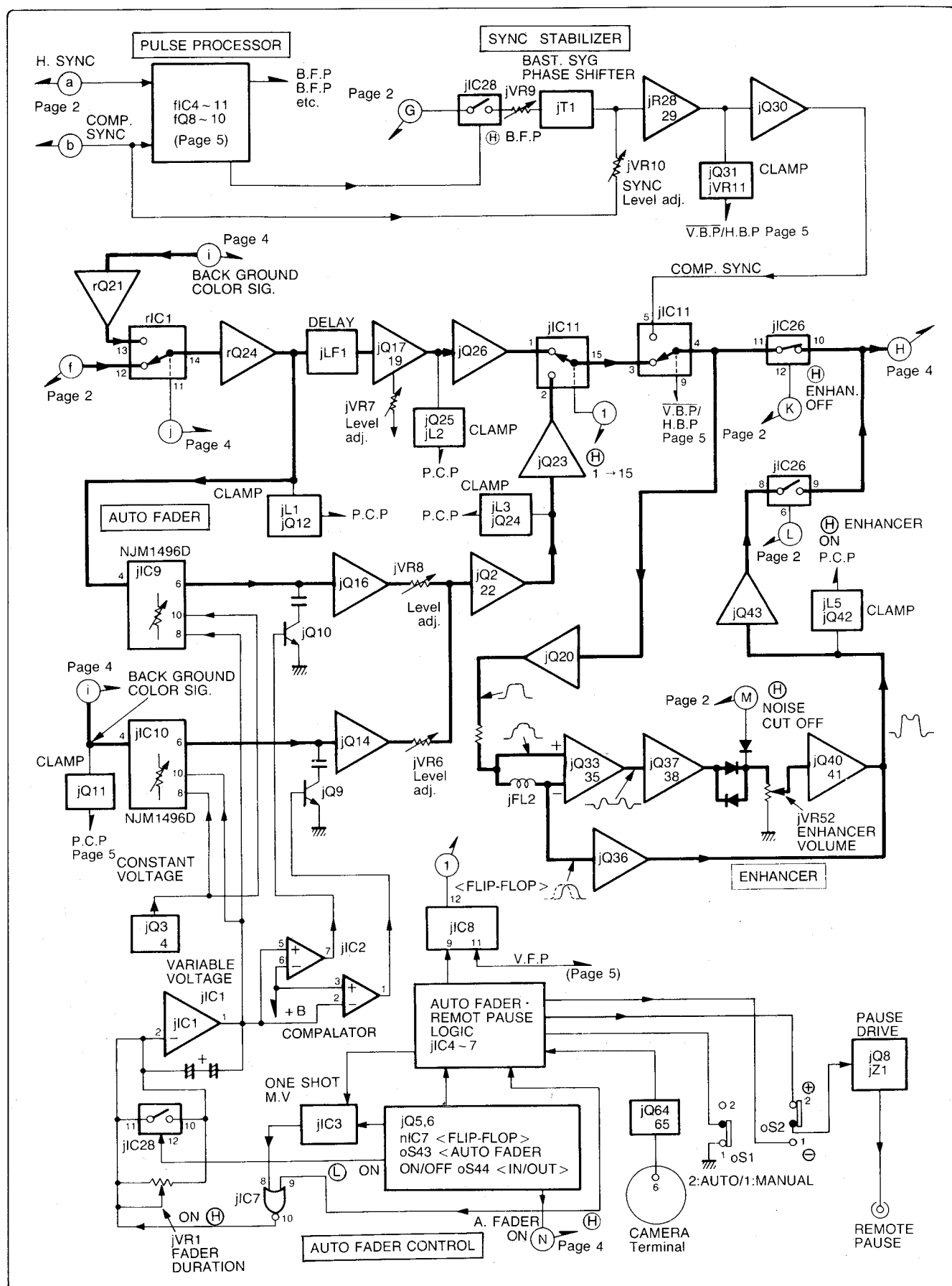
C.R. : Carbon Resistor	E.B.L. : Low Leak Bi-Polar
S.R. : Solid Resistor	Electrolytic Capacitor
Ce.R. : Cement Resistor	Ta.C. : Tantalum Capacitor
M.R. : Metal Film Resistor	F.C. : Film Capacitor
F.R. : Fusing Resistor	M.P. : Metalized Paper Capacitor
N.I.R. : Non-Inflammable Resistor	P.C. : Polystyrene Capacitor
A.R. : Array Resistor	G.C. : Gimmic Capacitor
C.C. : Ceramic Capacitor	A.C. : Array Capacitor
C.T. : Ceramic Capacitor,	V.R. : Variable Resistor
Temperature Compensation	S.V.R. : Semi Variable Resistor
E.C. : Electrolytic Capacitor	SW. : Switch
E.L. : Low Leak Electrolytic	Chip R. : Chip Resistor
Capacitor	Chip C. : Chip Capacitor
E.B. : Bi-Polar Electrolytic	
Capacitor	

## 1. BLOCK DIAGRAM

### 1-1. INPUT SELECTOR and COLOR CORRECTOR Section

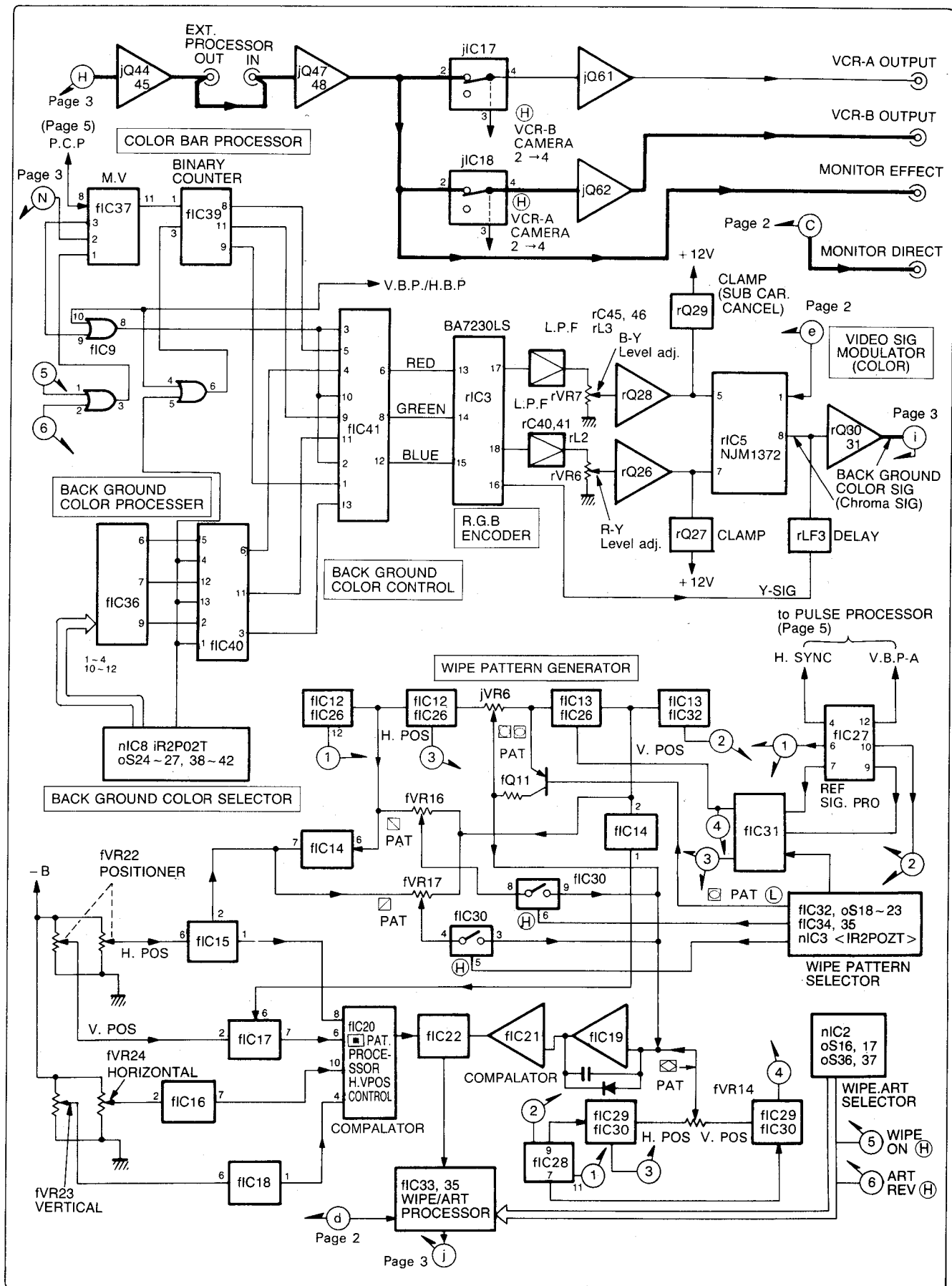


## 1-2. AUTO FADER and ENHANCER Section

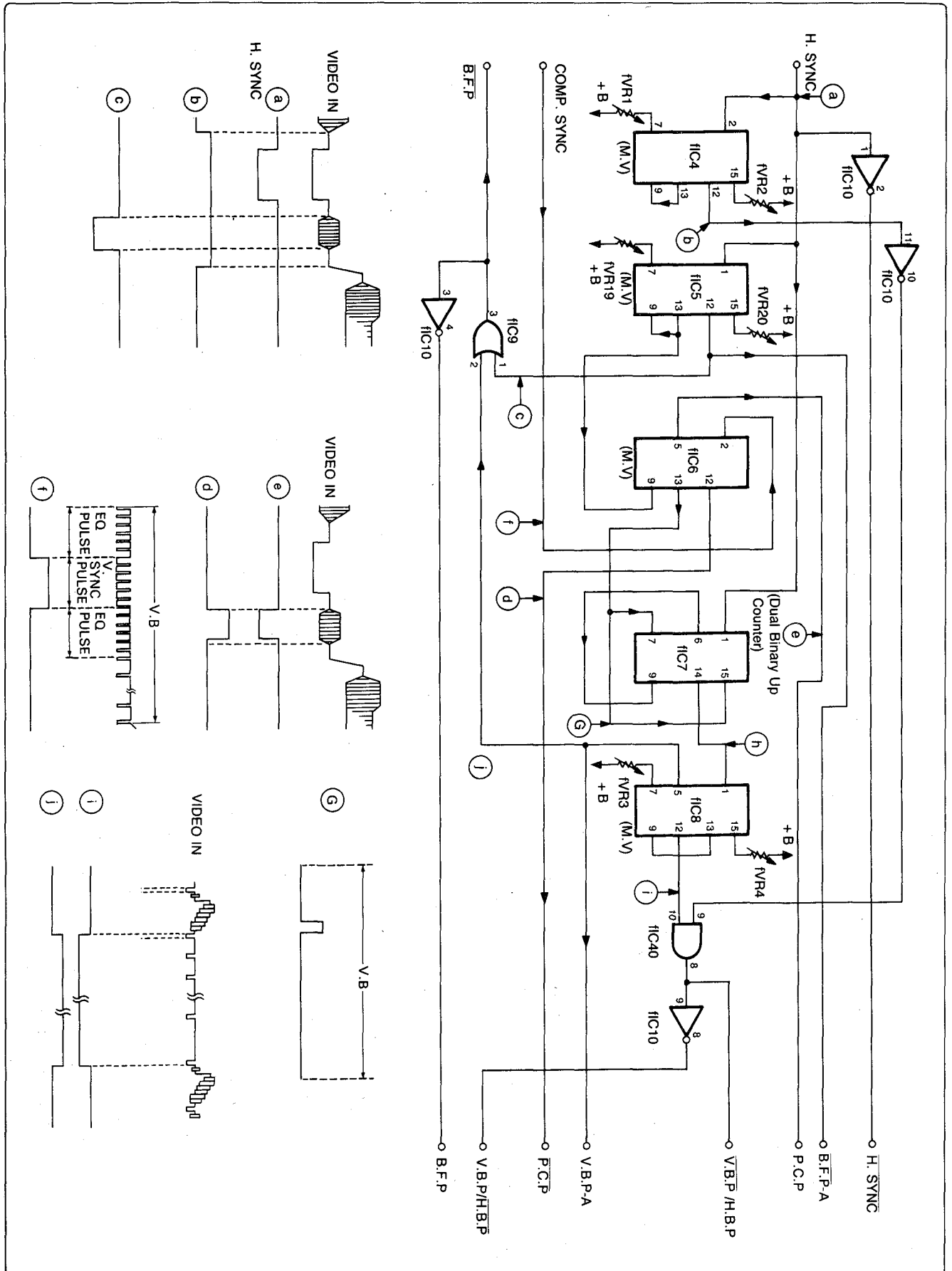




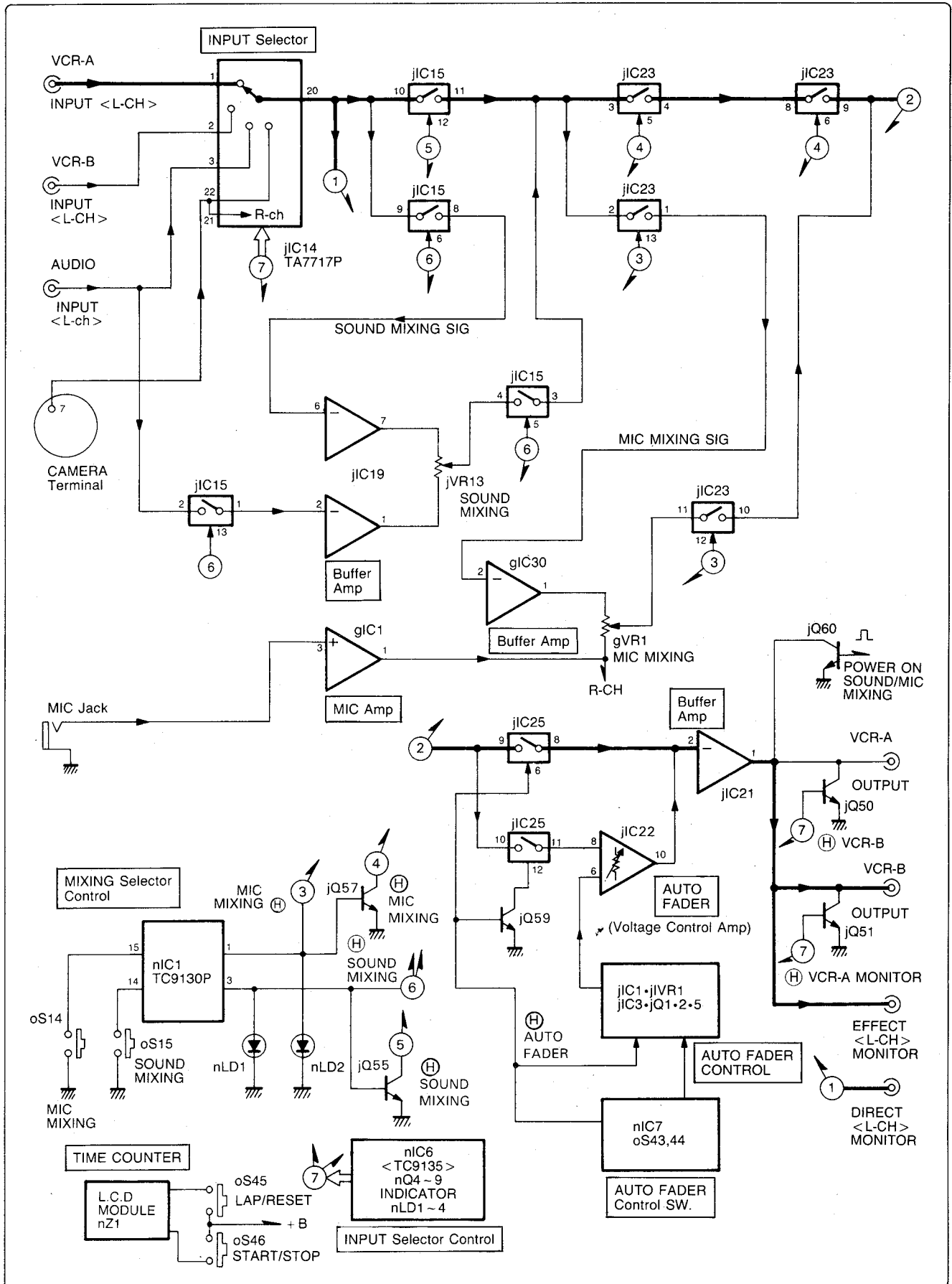
## 1-3. BACKGROUND COLOR and WIPE PATTERN Generator Section



# 1-4. Pulse Processor Section

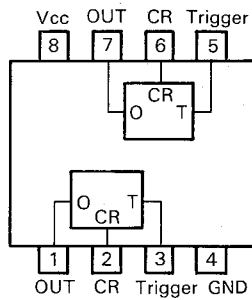


# 1-5. AUDIO Section

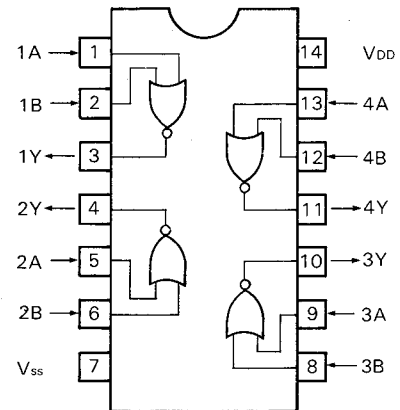


## 2. INTERIOR BLOCK DIAGRAM & TERMINAL FUNCTION OF IC

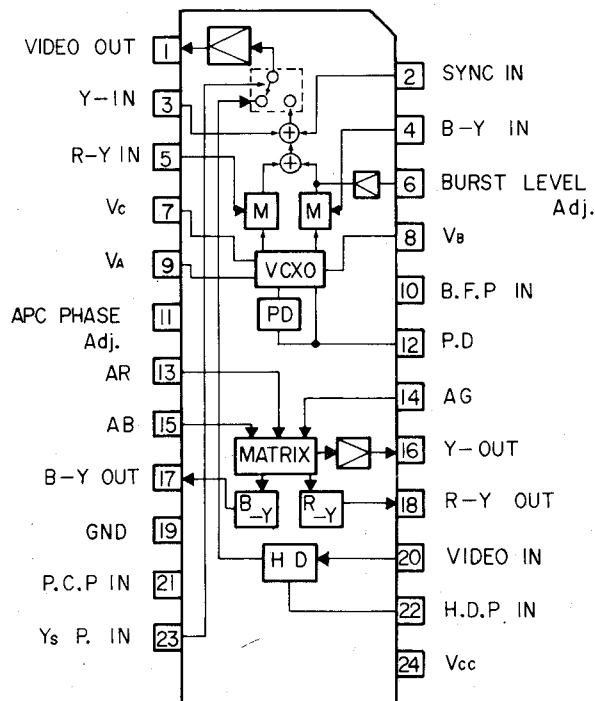
### •BA226 (One Shot Multi Timer)



### •BU4001B/MSM4001BRS/TC4001P (Quad NOR)



### •BA7230LS (NTSC Method RGB Encoder)

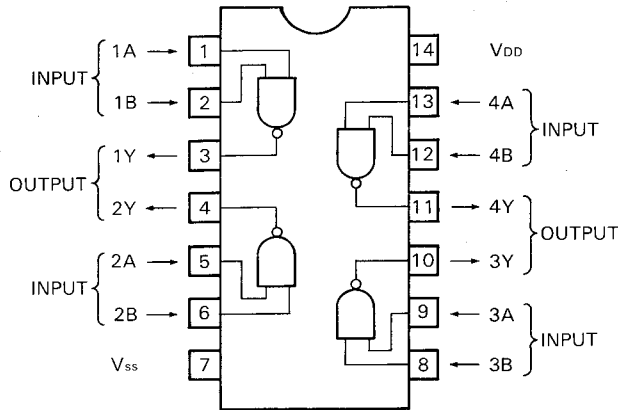


### •Terminal Function <BA7230LS>

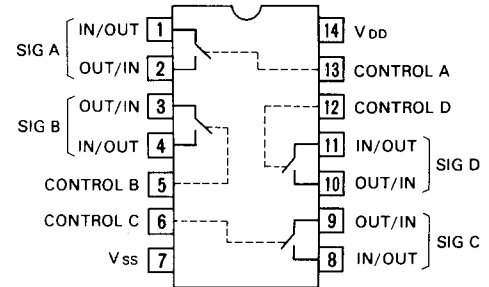
Pin No.	Terminal Name	Function and Operation
1	Output terminal:	NTSC composite signal is outputted ( $V_o = 2V_{p-p}$ )
2	SYNC IN terminal	Horizontal synchronizing signal is inputted.
3	Luminance signal input terminal:	Luminance signal synthesized from RGB signals is inputted.
4	Color difference signal input terminal:	$E_B - E_Y$ signal is inputted.
5	Color difference signal input terminal:	$E_R - E_Y$ signal is inputted.
6	Color burst adjustment:	A semi-variable resistor is connected for adjusting the amplitude of color burst signal.
7	VCXO terminal:	
8	VCXO terminal:	
9	VCXO terminal:	
10	BFP input terminal:	BFP (burst flag pulse) is inputted.
11	APC adjustment terminal:	A semi-variable resistor is connected for adjusting color burst phase.
12	Filter terminal:	A PLL filter is connected.
13	R signal input terminal:	R signal is inputted.
14	G signal input terminal:	G signal is inputted.
15	B signal input terminal:	B signal is inputted.
16	Luminance signal output terminal:	Luminance signal based on RGB signals is outputted.
17	Color difference signal output terminal:	$E_B - E_Y$ signal is outputted.
18	Color difference signal output terminal:	$E_R - E_Y$ signal is outputted.
19	GND terminal:	This terminal is connected to GND.
20	VIDEO IN terminal:	VIDEO signal is inputted.
21	PCP input terminal:	PCP (pedestal clamp pulse) is inputted.
22	HDP input terminal:	HDP (half down pulse) is inputted to reduce VIDEO signal by $-5dB$ .
23	Ys input terminal:	Switching signals from switcher circuit are inputted.
24	Vcc terminal:	This terminal is connected to power supply.



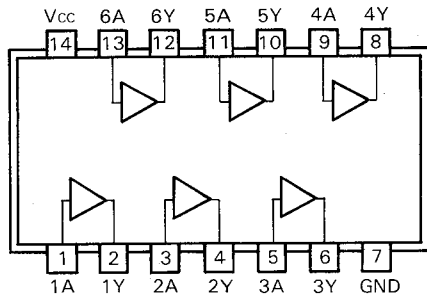
•BU4011B/MSM4011BRS/TC4011P (Quad NAND)



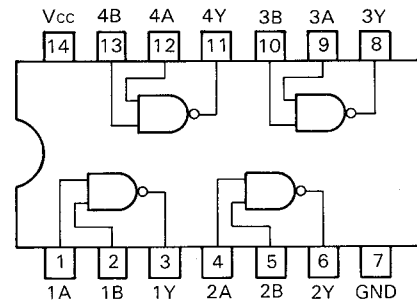
•BU4066B2/MSM4066BRS/TC4066BP (Quad Analog SW.)



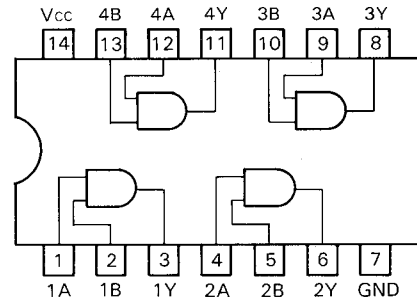
•HD7407P/M53207P/SN7407 (Hex Buffer)



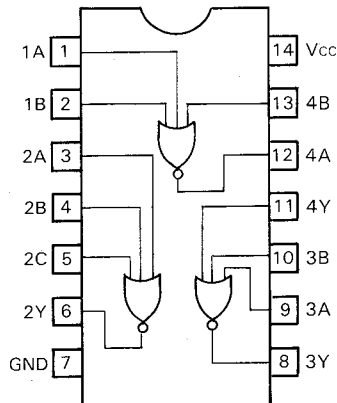
•HD74LS00P/MB74LS00/TC74HC00P (Quad AND)



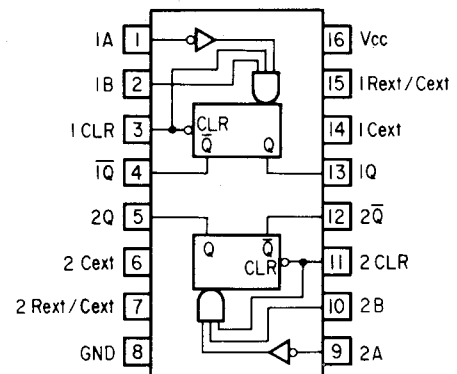
•HD74LS08P/M74LS08P/MB74LS08M (Quad AND)



•HD74LS27P/M74LS27P/MB74LS27P (Triple NOR)



•HD74LS123P/M74LS123P/MB74LS123M (Dual Multivibrators)

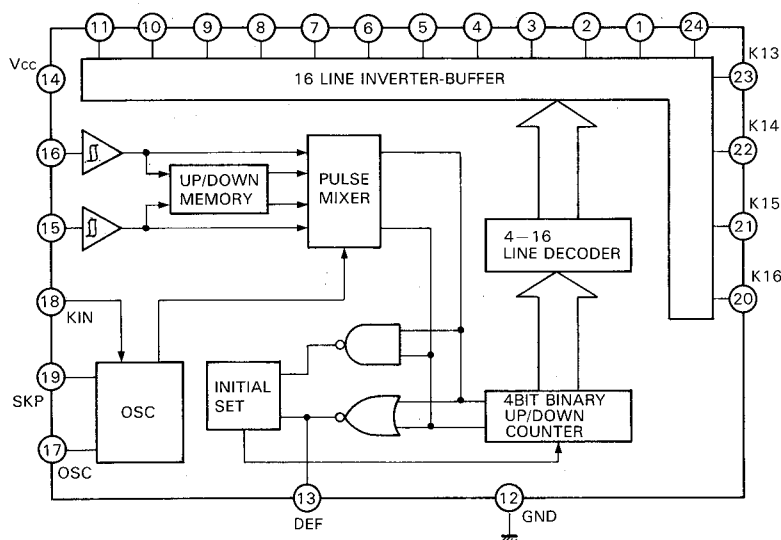


•Function Table <HD74LS123P/M74LS123P/MB74LS123M>

INPUT			OUTPUT	
CLEAR	A	B	Q	Q̄
L	X	X	L	H
X	H	X	L	H
X	X	L	L	H
H	L	↑		
H	↓	H		
↑	L	H		

X = "H" or "L"

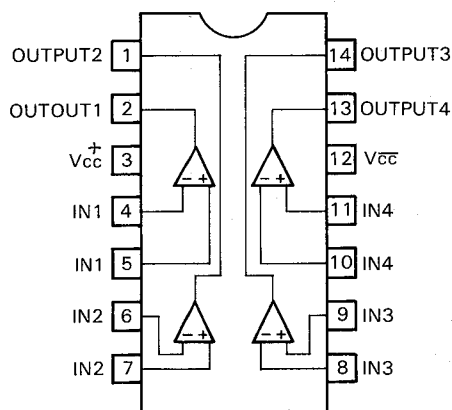
•IR2P02T (Electronic SW.)



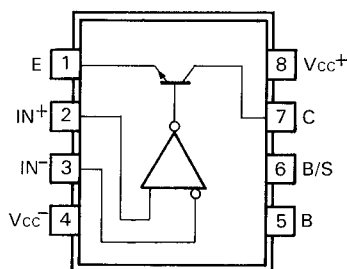
•Terminal Function <IR2P02T>

Pin No.	Symbols	Terminal Name	Function and Operation
1~11, 20~24	K1~16	Selection output terminals	These terminals are of open collector outputs and usable as potentiometer VR, display and key switch in common.
12	GND	GND terminal	
13	DEF	AFT defeat output terminal	This terminal is of open collector output via 330 ohms and usable as AFT defeat, voice mute, LED erase, etc.
15	CHD	Selection down-direction input terminal	Usually connected to power voltage via a resistor. In response to the leading edge after, having being dropped to GND, selection output is shifted in the direction from K16 to K1.
16	CHU	Selection up-direction input terminal	Usually connected to power voltage via resistor. In response to the leading edge, after having been dropped to GND, the selection output is shifted in the direction from K1 to K16. By dropping CHU and CHD terminals to GND simultaneously, channel counter can be reset. Therefore, this terminal is convenient for initialization of direct selection operation or power-on operation. Since a Schmitt circuit is incorporated in this input terminal, the hysteresis potential can be set by an external resistor.
17	OSC	Oscillation filer terminal	By connecting CR, internal oscillation is enabled in key selection or skip operation. The standard oscillation frequency is 2 kHz.
18	KIN	Key input terminal	Oscillation begins at "H" level to shift the selection output. If the selection terminal has not yet been selected when the key is depressed, this terminal changes to a "H" level, so that selection starts shifting. If already selected, this terminal changes to a "L" level to stop shifting, so that selection operation has been completed.
19	SKP	Skip input terminal	Oscillation begins as "L" level to shift selection output. When 16 channels are used as 12 channels by use of the vacant channel skip input terminal, it is possible to skip unnecessary channels in response to CHU and CHD inputs during remote-control operation, because four remaining channels are connected to this SKP terminal and then to power voltage via a resistor.
14	Vcc	Power terminal	Operable power voltage range 9.6 to 14.4V.

•IR2339 (Quad Comparator)

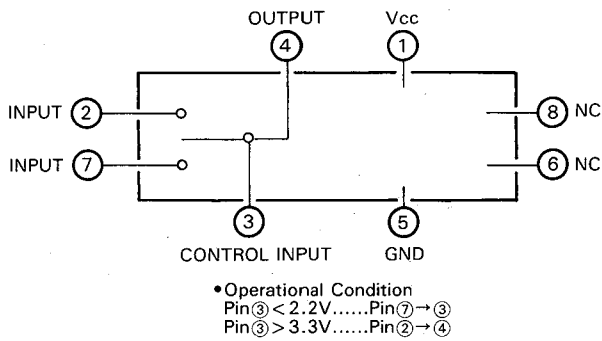


•IR9311 (Comparator)

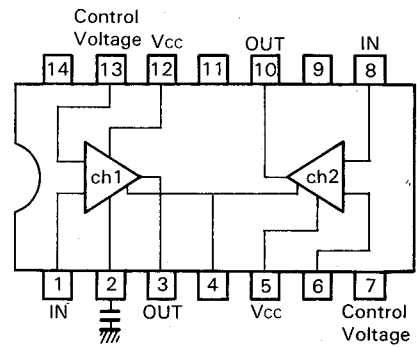


B: Balance  
E: Emitter Output  
C: Collector Output  
B/S: Balance/Strobe

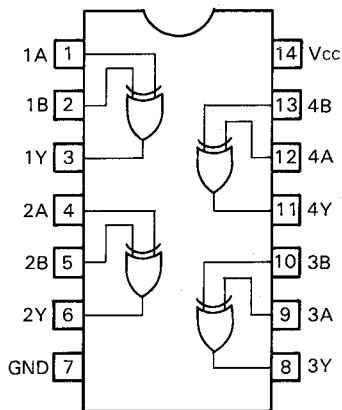
•LA7016 (Analog SW.)



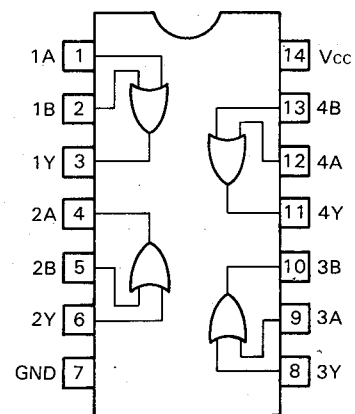
•LA2600 (Dual Electronic Volume)



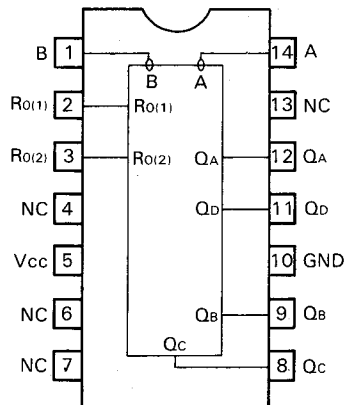
•M74LS86P/MB74LS86 (Quad Exclusive-OR)



•M74LS32P/MB74LS32 (Quad OR)



•M74LS93P (4 bit Binary Counter)



•Function Table <M74LS93P>

Reset Count

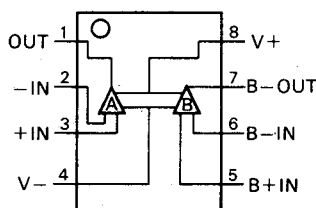
Reset Inputs		Outputs			
R <sub>0(1)</sub>	R <sub>0(2)</sub>	Q <sub>d</sub>	Q <sub>c</sub>	Q <sub>b</sub>	Q <sub>a</sub>
H	H	L	L	L	L
L	X	Count			
X	L	Count			

Countsequence\*

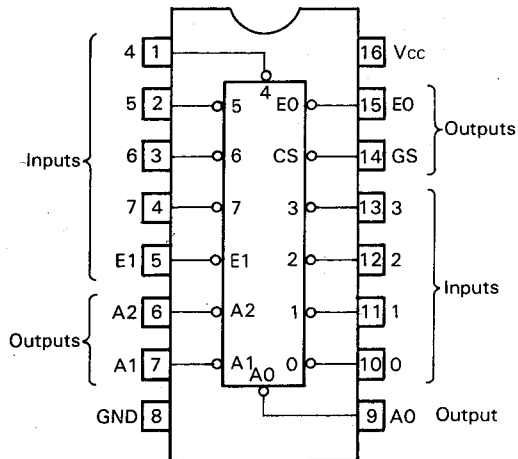
Count	Outputs			
	Q <sub>d</sub>	Q <sub>c</sub>	Q <sub>b</sub>	Q <sub>a</sub>
0	L	L	L	L
1	L	L	L	H
2	L	L	H	L
3	L	L	H	H
4	L	H	L	L
5	L	H	L	H
6	L	H	H	L
7	L	H	H	H
8	H	L	L	L
9	H	L	L	H
10	H	L	H	L
11	H	L	H	H
12	H	H	L	L
13	H	H	L	H
14	H	H	H	L
15	H	H	H	H

\*1. Output Q<sub>a</sub> Connect Input B  
 2. H:High Level, L:Low Level, X:"H" or "L"

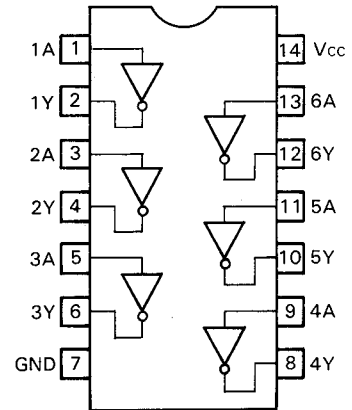
•IR94559/M5218P/NJM4558D/NJM4559D (OP Amp.)



•M74LS148P (8-line to 3-line Encoder)



•MB74LS04R (Hex Inverter)

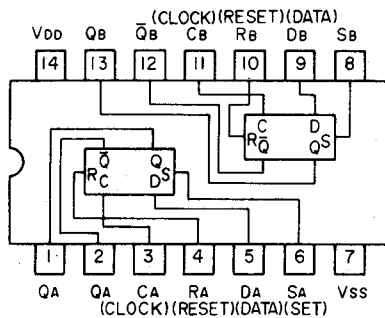


•Function Table <M74LS148>

EI	INPUT								OUTPUT				
	0	1	2	3	4	5	6	7	A2	A1	A0	GS	EO
H	X	X	X	X	X	X	X	X	H	H	H	H	H
L	H	H	H	H	H	H	H	H	H	H	H	H	L
L	X	X	X	X	X	X	X	L	L	L	L	L	H
L	X	X	X	X	X	X	L	H	L	L	H	L	H
L	X	X	X	X	X	L	H	H	L	H	L	L	H
L	X	X	X	X	L	H	H	H	L	H	H	L	H
L	X	X	X	L	H	H	H	H	L	L	L	L	H
L	X	X	L	H	H	H	H	H	H	L	H	L	H
L	X	L	H	H	H	H	H	H	H	H	L	L	H
L	L	H	H	H	H	H	H	H	H	H	H	L	H

\*H:High Level, L:Low Level, X:"H" or "L"

•MB84013BM (Dual D-type Flip-Flop)



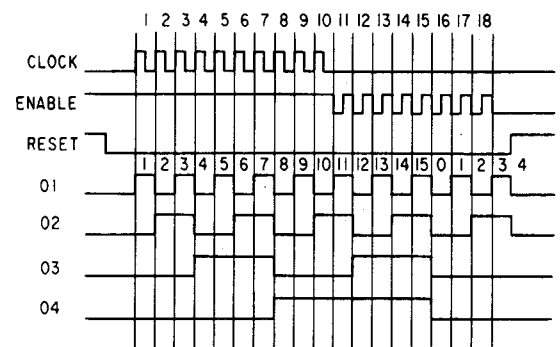
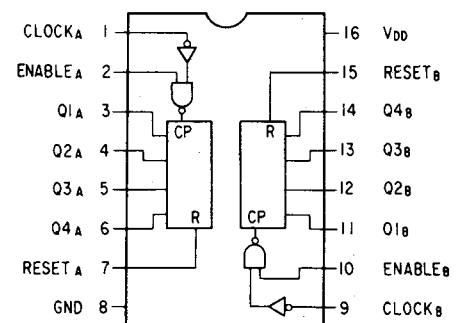
•Function Table <M84013BM>

入 力				出 力	
CLOCK	DATA	SET	RESET	Qn+1	Qn+1
—	L	L	L	L	H
—	H	L	L	H	L
—	X	L	L	Qn	Qn
X	X	L	H	L	H
X	X	H	L	H	L
X	X	H	H	L	L

H: High Level  
L: Low Level  
X: "H" or "L"

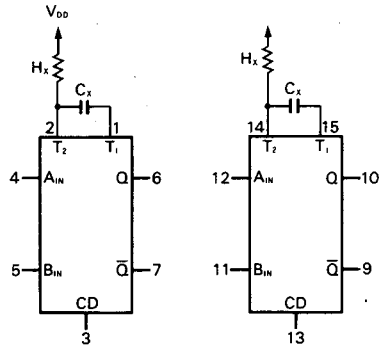
Qn: Output Signal before clock pulse  
Qn+1: Output Signal after clock pulse

•MSM4520BRS/TC4520P/μPD4520BC (Dual Binary Up Counter)





•MSM4538RS/TC4538BP (Multivibrators)



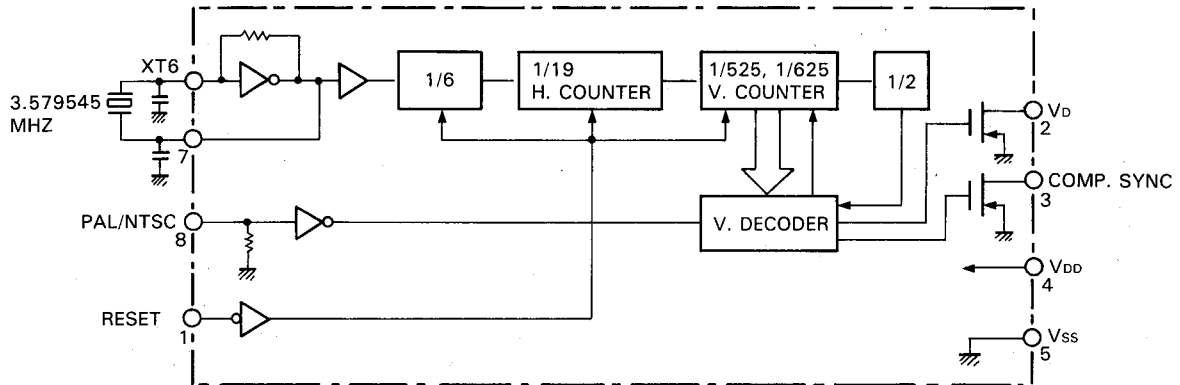
V<sub>DD</sub> : 16, V<sub>SS</sub> : 8

•Function Table <MSM4538RS/TC4538BP>

INPUT		OUTPUT		NOTE
A <sub>IN</sub>	B <sub>IN</sub>	Q	$\bar{Q}$	
	H			OUTPUT ENABLE
	L	L	H	INHIBIT
H		L	H	INHIBIT
L				OUTPUT ENABLE
*	*	L	H	INHIBIT

\* : Don't Care

•MSM5258RS (SYNC SIG Generator)

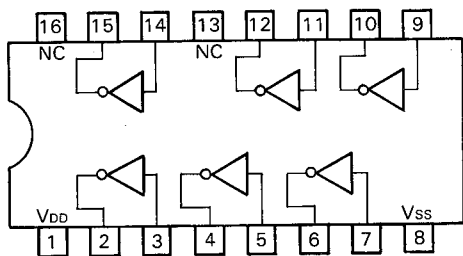


•Terminal Function <MSM5258RS>

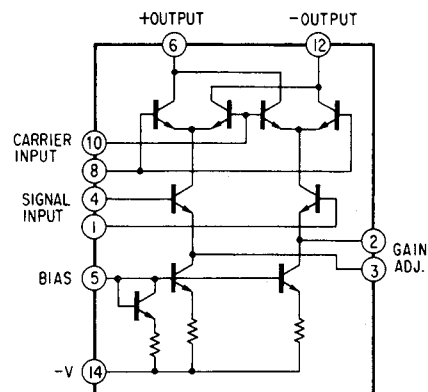
Pin No.	Symbols	Terminal Name	Function and Operation												
6, 7	XT, $\bar{X}$ T	Oscillator connecting terminals	An oscillator can be formed by externally connecting a quartz vibrator or a ceramic oscillator and a capacitor. Further, it is also possible to apply a signal of 3.58 MHz from outside through a coupling capacitor.												
8	PAL/NTSC	NTSC or PAL switching terminal	A pull-down resistor is connected in side. NTSC is selected in response to a "L" level input; a PAL synchronizing signal is selected in response to a "H" level input. A composite synchronizing signal is outputted from COMP. SYNC terminal and a vertical synchronizing signal is outputted from V <sub>O</sub> terminal. When oscillation freq. 3.579545 MHz is used: <table border="1"> <tr> <th>Method</th><th>Input</th><th>Hor. sync. freq.</th><th>Vert. sync. freq.</th></tr> <tr> <td>NTSC</td><td>"L"</td><td>15.7kHz</td><td>59.80Hz</td></tr> <tr> <td>PAL</td><td>"H"</td><td>15.7kHz</td><td>50.23Hz</td></tr> </table>	Method	Input	Hor. sync. freq.	Vert. sync. freq.	NTSC	"L"	15.7kHz	59.80Hz	PAL	"H"	15.7kHz	50.23Hz
Method	Input	Hor. sync. freq.	Vert. sync. freq.												
NTSC	"L"	15.7kHz	59.80Hz												
PAL	"H"	15.7kHz	50.23Hz												

Pin No.	Symbols	Terminal Name	Function and Operation
1	RESET	Reset input terminal	Internal counter is reset in response to a "L" level input, and V <sub>O</sub> COMP. SYNC terminal changes to "L" level input, this terminal returns to the normal operation.
4, 5	V <sub>DD</sub> V <sub>SS</sub>	Power voltage terminal	V <sub>DD</sub> is used at 4.3 to 6.0V. V <sub>SS</sub> is used at 0V.
2	VD	Vert. sync. signal output terminal	The output is of N-CH open drain. The amplitude of this output can freely be adjusted by externally connecting a pull-up or -down resistor.
3	COMP. SYNC	Composite sync. signal output terminal	The output is of N-CH open drain. The amplitude of this output can freely be adjusted by externally connecting a pull-up or -down resistor.

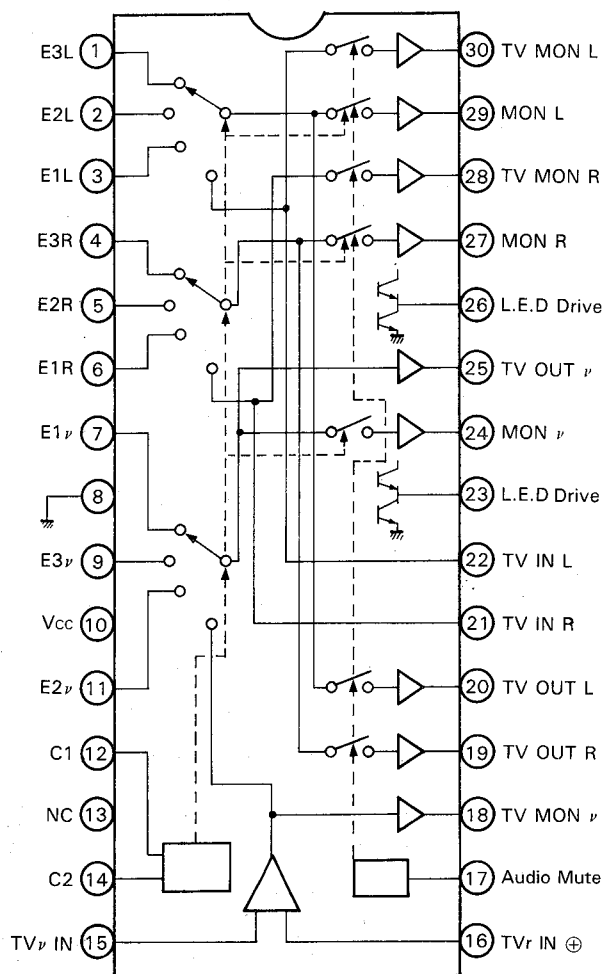
•MSM4049BRS/TC4049BP (Hex Inverter)



•NJM1496D (Double Balanced Mixer)



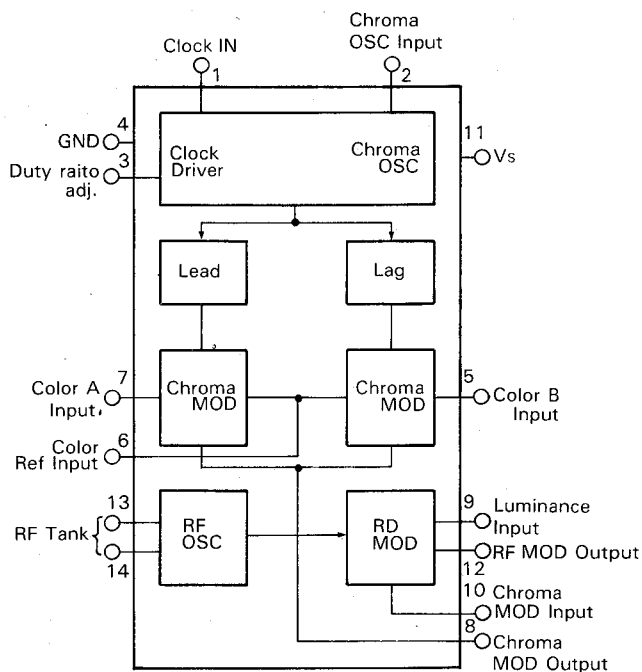
•TA7717P (Triple 4-ch Input Selector)



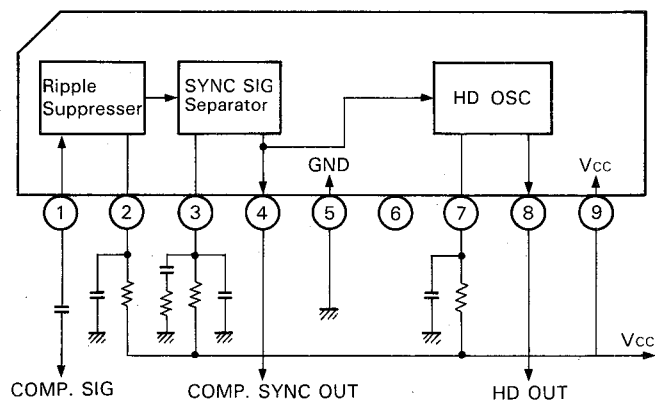
•Change Mode Table <TA7717P>

Control Input		VIDEO		AUDIO L		AUDIO R	
Pin 14	Pin 12	TV <sub>OUT</sub> $\nu$	MON $\nu$	TV <sub>OUT</sub> L	MON L	TV <sub>OUT</sub> R	MON R
H	H	TV	TV	TV	TV	TV	TV
H	L	E <sub>1</sub>	—	E <sub>1</sub>	—	E <sub>1</sub>	—
L	H	E <sub>2</sub>	E <sub>2</sub>	E <sub>2</sub>	E <sub>2</sub>	E <sub>2</sub>	E <sub>2</sub>
L	L	E <sub>3</sub>	E <sub>3</sub>	E <sub>3</sub>	E <sub>3</sub>	E <sub>3</sub>	E <sub>3</sub>

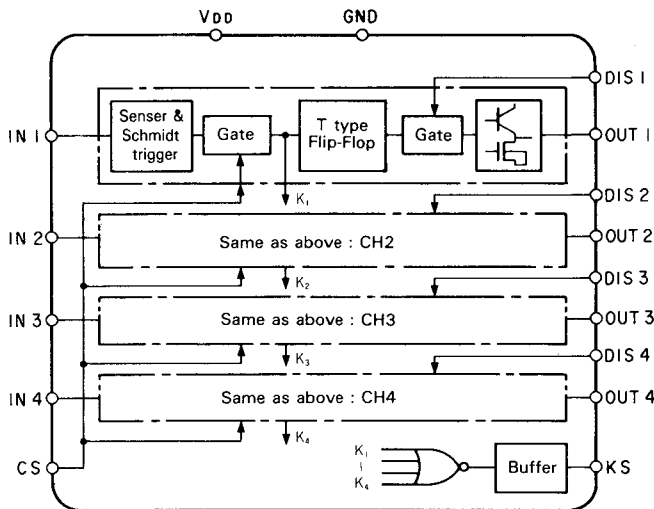
•NJM1372AD (Video SIG Modulator)



•TA7357AP (SYNC SIG Separator)



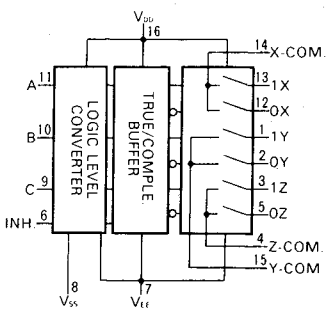
### •TC9130P (Cyclic type Flip-Flop)



•Function Table <TC9130P>

Pin No.	Symbols	Terminal Name	Function and Operation
15 to 12	IN-1 IN-4	Input signal terminals	When a voltage applied to these terminals changes from "H" to "L", the output of the corresponding channel is inverted.
1, 3, 5, 7	OUT-1 OUT-4	Output terminals	Whenever the corresponding input terminal changes from "H" to "L", the output level is inverted. The output circuit is of complementary type of bipolar NPN transistor and Nch MOS FET.
2, 4, 6, 9	DIS-1 DIS-4	Output-disable terminal	If this terminal is set to "L", the corresponding output terminal is fixed at "L" irrespective of the internal flip-flop condition. In this case, an input signal is receivable as usual.
10	CS	Input-disable terminal	If this terminal is set to "L", all the inputs from IN1 to 4 are disabled and the internal flip-flop condition is held.
11	KS	Input detection terminal	When a "L" signal is given to any one of the input terminals IN1 to 4, this terminal is changed to "L" level.
16	V <sub>DD</sub>	Power voltage terminal	
8	GND	Ground terminal	

### •TC4053BP (Triple 2-Channel Multiplexer)

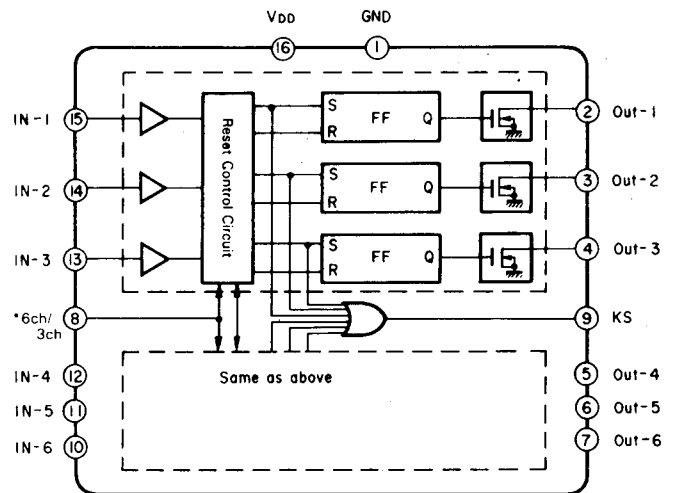


•Function Table <TC4053BP>

CONTROL INPUT				"ON" CHANNEL
INHIBIT	C	B	A	
L	L	L	L	0X, 0Y, 0Z
L	L	L	H	1X, 0Y, 0Z
L	L	H	L	0X, 1Y, 0Z
L	L	H	H	1X, 1Y, 0Z
L	H	L	L	0X, 0Y, 1Z
L	H	L	H	1X, 0Y, 1Z
L	H	H	L	0X, 1Y, 1Z
L	H	H	H	1X, 1Y, 1Z
H	x	x	x	NONE

x = Don't Care

### •TC9135P (6-ch Mutually Type Flip-Flop)



•Function Table <TC9135P>

Pin Nos.	Symbols	Terminal Name	Function and Operation
10 to 15	IN-1 to IN-6	Input signal terminals:	When a voltage applied to any of input terminals IN-1 to IN-6 changes in level from "H" to "L", the Nch FET at the output terminal corresponding to the "L" input terminal is turned on, the other terminal outputs being turned off. These terminals can respond to both a mechanical key of feather touch type and a touch switch of touch sensor type.
2 to 7	Out-1 to Out-6	Output terminals:	When a voltage applied to the corresponding input terminal changes to "L", the Nch FET at the output terminal is turned on to change the output level to "L". This output status is kept at "L" level, even if the corresponding input terminal is returned to "H". However, when an input signal is applied to the other channels, the released Nch FET is turned off, the output being returned to "open" status. A maximum of 30 mA current can be passed through the Nch FET at the output, so that it is possible to directly drive an LED or a small relay.
9	KS	Input detection signal terminal:	The KS terminal output is kept at "H" level only while a "L" level signal is applied to any of the input terminals IN1 to IN6.
8	6/3	6ch/3chx2 Switch input terminal:	When this terminal is at "H" level, all the flip-flops in the six internal circuits are connected to each other as a mutually reset circuit. However, when at "L" level, the circuit is separated into two 3ch-mutually-reset circuits for IN-1 to IN-3 and IN-4 to IN-6.
16	V <sub>DD</sub>	Power voltage terminal	
1	GND	Ground terminal	

# 3. ADJUSTMENTS

**Conditions:** 1. Remove front panel assembly from bottom cover assembly.  
2. Arrange the connection as shown in Fig. 3-3. When no vector scope is used, connect MONITOR EFFECT terminal of the unit (AV-99) to VIDEO IN terminal of a color monitor TV.

Fig. 3-1

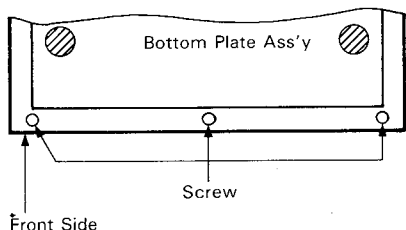


Fig. 3-2

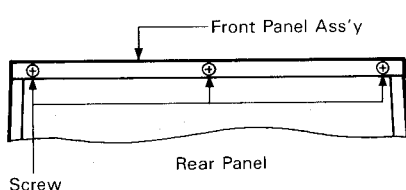
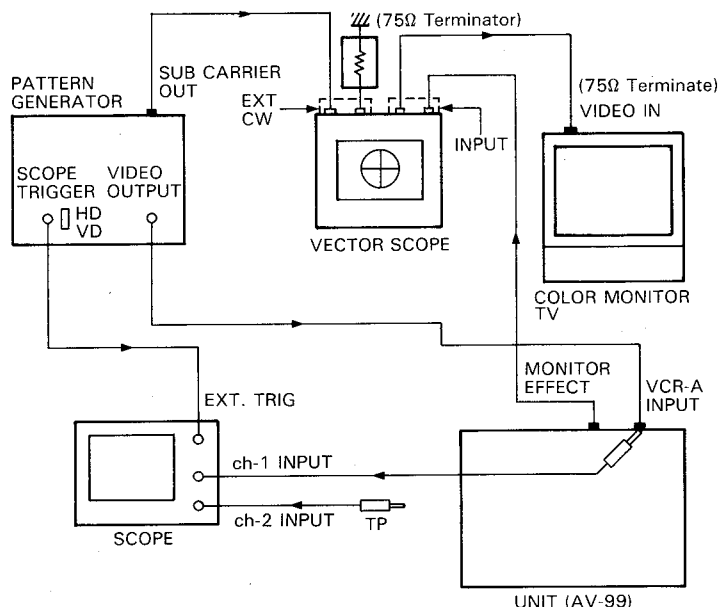


Fig. 3-3



## 3-1. Pulse Processor Adjustment

**Conditions:** 1. OSC Output..... PATTERN GENERATOR <EIA COLOR BAR>

2. Connection Point..... VCR-A INPUT Terminal.

STEP	SUBJECT	MEASURE OUTPUT	ADJUST	ADJUSTMENT FOR	SETTING CONDITIONS AND REMARKS
1	Horizontal Blanking Pulse adj. (H.B.P)	ch-1 VCR-A INPUT Terminal, ch-2, TP-1 (fIC4-Pin12) <F-5275>	fVR2, fVR1 <F-5275>	<p>Fig. 3-4</p> <p>1) Match the trailing edge of ch-2 input signal with the leading edge of the luminance signal of ch-1 input signal by fVR2. 2) Match the leading edge of ch-2 input signal with the end of the chrominance subcarrier of ch-1 input signal by fVR1.</p>	<p>•Set various switches to the condition where power is turned on. •OSC SCOPE: TIME 10μsec, EXT. TRIG "H" (SCOPE TRIGGER H DRIVE), SLOPE "-", VERTICAL MODE "ALT". *See "Component Arrangement View of Printed Board" on page 25 with respect to the measuring and adjusting positions of board F-5275.</p>
2	Burst•Flag Pulse adj. (B.F.P)	ch-1 VCR-A INPUT Terminal, ch-2, TP-2 (fIC5-Pin12) <F-5275>	fVR20, fVR19 <F-5275>	<p>Fig. 3-5</p> <p>1) Match the trailing edge of ch-2 signal with the start of ch-1 color burst signal by fVR20. 2) Match the leading edge of ch-2 signal with the end of ch-1 color burst signal by fVR19.</p>	<p>•Set various switches to the condition where power is turned on. •OSC SCOPE: TIME 2μsec, EXT. TRIG "H", SLOPE "-", VERT. MODE "ALT".</p>
3	Vertical Blanking Pulse adj. (V.B.P)	ch-1 VCR-A INPUT Terminal, ch-2, TP-3 (fIC8-Pin12) <F-5275>	fVR4, fVR3 <F-5275>	<p>Fig. 3-6</p> <p>1) Match the trailing edge of ch-2 signal with the start of ch-1 vertical blanking interval by fVR4. 2) Match the leading edge of ch-2 signal with the end of ch-1 vertical blanking interval by fVR3.</p>	<p>•Set various switches to the condition where power is turned on. •OSC SCOPE: TIME 2msec, DELAY 0.2msec, EXT. TRIG "V" (SCOPE TRIGGER DRIVE), SLOPE "-", VERT. MODE "CHOP".</p>
4	Color Bar Pulse adj.	ch-1 VCR-A INPUT Terminal, ch-2 TP-4 (fIC41-Pin12) <F-5275>	fVR26 <F-5275>	<p>Fig. 3-7</p> <p>1) Match the trailing edge of the fourth pulse of ch-2 signal with the end of the chrominance subcarrier of ch-1 signal by fVR26.</p>	<p>•Select BACK GROUND COLOR/ COLOR BAR. Set other switches to the condition where power is turned on. •OSC SCOPE: TIME 10μsec, EXT. TRIG "H", SLOPE "-", VERT. MODE "ALT".</p>



### 3-2. Output Signal Level Adjustment

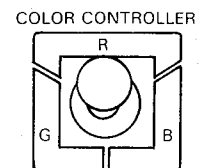
Conditions: 1. OSC Output..... PATTERN GENERATOR <STAIR CASE•CHROMA OFF or EIA COLOR BAR•CHROMA OFF>  
2. Connection Point..... VCR-A Terminal.

STEP	SUBJECT	MEASURE OUTPUT	ADJUST	ADJUSTMENT FOR	SETTING CONDITIONS AND REMARKS
1	Luminance Signal Level adj.	ch-1 VCR-A INPUT Terminal, ch-2 MONITOR EFFECT Terminal (75Ω Terminator)	jVR7 <F-5274>	Fig. 3-8 Ch-1 Ch-2 1) Match the level b of ch-2 signal with that a of ch-1 signal by jVR7.	<ul style="list-style-type: none"> <li>•Turn on WIPE. Set HORIZONTAL WIPE and VERTICAL WIPE control full upwards. Set other switches to the condition where power is turned on.</li> <li>•OSC SCOPE: TIME 10μsec, EXT. TRIG "H", SLOPE "—", VERTICAL MODE "ALT".</li> <li>*See "Component Arrangement View of Printed Board" on page 24 with respect to the measuring and adjusting position of board F-5274.</li> </ul>
2	SET-UP Level adj.	Same as above	jVR11 <F-5274>	Fig. 3-9 H.BL 1) Match the level of ch-2 horizontal blanking interval with that of ch-1 input signal by jVR11.	Same as above
3	Horizontal Synchronizing Signal Level adj.	Same as above	jVR10 <F-5274>	Fig. 3-10 Ch-2 1) Match the level of ch-2 synchronizing signal with that of ch-1 synchronizing signal by jVR10.	Same as above


### 3-3. Color Corrector and R.G.B. Encode Adjustment

Conditions: 1. OSC Output..... PATTERN GENERATOR <EIA COLOR BAR>  
2. Connection Point..... VCR-A INPUT Terminal, VECTOR SCOPE (See Fig. 3-1)

STEP	SUBJECT	MEASURE OUTPUT	ADJUST	ADJUSTMENT FOR	SETTING CONDITIONS AND REMARKS
1	3.58MHz Reference Frequency adj.	TP1 (JP32 or rR106) <F-5274>	rTC1 <F-5274>	1) Set the frequency counter to 3579.545kHz ± 50Hz by rTC1.	<ul style="list-style-type: none"> <li>•Remove PATTERN GENERATOR output from VCR-A INPUT terminal. (Or else, select VCR-B).</li> <li>•Connect the frequency counter to TP-1.</li> <li>*See "Component Arrangement View of Printed Board" on page 24 with respect to the measuring and adjusting positions of board F-5274.</li> </ul>
2	Color Burst Phase Control adj. (In case of using VECTOR SCOPE)	MONITOR EFFECT Terminal, VECTOR SCOPE, COLOR MONITOR TV.	rVR5 <F-5274>	1) Adjust vector scope coordinates so as to move along the ordinate by rVR5, when COLOR CONTROLLER (rVR1) is moved in the vertical direction.	<ul style="list-style-type: none"> <li>•Turn on COLOR CORRECTION. Set other switches to the condition where power is turned on.</li> <li>•Adjust vector-scope phase to the normal phase of each color, before performing this adjustment.</li> </ul>
3	Color Burst Phase Control adj.	MONITOR EFFECT Terminal, COLOR MONITOR TV.	rVR5 <F-5274>	Fig. 3-11 EIA COLOR BAR 1) Change the white (100%) portion on color monitor TV to pink color by rVR5.	<ul style="list-style-type: none"> <li>•Set switches as above.</li> <li>•Set COLOR CONTROLLER to R position.</li> </ul>
4	Color Difference Signal Level adj. (R-Y)	MONITOR EFFECT Terminal, COLOR MONITOR TV.	rVR6 <F-5274>	1) Rotate rVR6 full clockwise. In this state, turn on AUTO FADER and confirm hue so as to be uniform on color monitor TV.	<ul style="list-style-type: none"> <li>•Turn on or off AUTO FADER and set BACK GROUND COLOR to COLOR BAR. Set other switches to the condition where power is turned on.</li> </ul>



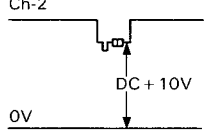
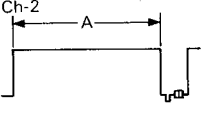
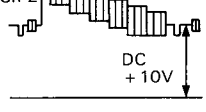
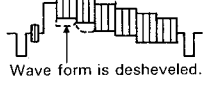
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STEP	SUBJECT	MEASURE OUTPUT	ADJUST	ADJUSTMENT FOR	SETTING CONDITIONS AND REMARKS
5	Color Difference Signal Level adj. (B-Y)	Same as above	rVR7 <F-5274>	1) Rotate rVR7 full counterclockwise. In this state, turn on AUTO FADER and confirm hue so as to be uniform on color monitor TV.	Same as above
6	Sub Carrier (3.58MHz) Canceler adj.	ch-2, TP-2 (rIC5-Pin8) <F-5274>	rVR8 <F-5274>	Fig. 3-12  1) Minimize the leak of sub-carrier on white signal portion (A) of ch-2 input signal by rVR8.	<ul style="list-style-type: none"> <li>Set various switches as above.</li> <li>OSC SCOPE: TIME 10μsec, EXT TRIG "H", SLOPE "—".</li> </ul>

### 3-4. AUTO FADER Adjustment

Conditions: 1. OSC Output..... PATTERN GENERATOR <EIA COLOR BAR>

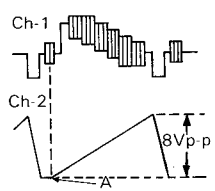
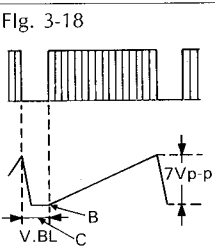
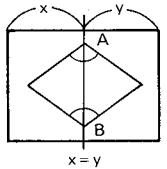
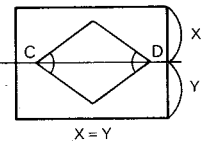
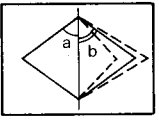
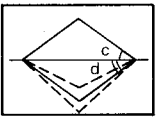
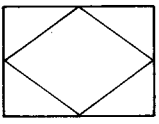
2. Connection Point..... VCR-A INPUT Terminal.

STEP	SUBJECT	MEASURE OUTPUT	ADJUST	ADJUSTMENT FOR	SETTING CONDITIONS AND REMARKS
1	BACK GROUND COLOR Bias (1-2) Level adj.	ch-2, TP-3 (jIC10-Pin6) <F-5274>	jVR4 <F-5274>	Fig. 3-13  1) Set pedestal level of ch-2 input signal to DC+10V by jVR4.	<ul style="list-style-type: none"> <li>Set BACK GROUND COLOR to WHITE.</li> <li>Turn on AUTO FADER. Set other switches to the condition where power is turned on.</li> <li>OSC SCOPE: TIME 10μsec, EXT. TRIG "H", SLOPE "—".</li> <li>*See "Component Arrangement View of Printed Board" on page 24 with respect to the measuring and adjusting positions of board F-5274.</li> </ul>
2	BACK GROUND COLOR Bias (2-1) Level adj.	ch-2, MONITOR EFFECT Terminal	jVR3 <F-5274>	Fig. 3-14  1) Adjust luminance signal of ch-2 input signal by jVR3 so that no other signals present on the luminance signal portion (A) and further the portion (A) becomes straight.	Same as above
3	Bias (1-1) Level adj.	ch-2, TP-4 (jIC9-Pin6) <F-5274>	jVR2 <F-5274>	Fig. 3-15  1) Set pedestal level of ch-2 input signal to DC+10V by jVR2.	<ul style="list-style-type: none"> <li>Set BACK GROUND COLOR to COLOR BAR.</li> <li>Turn on AUTO FADER and set IN/CUT to IN (fade-in operation). Set other switches to the condition where power is turned on.</li> <li>OSC SCOPE: TIME 10μsec, EXT. TRIG "H" SLOPE "—".</li> </ul>
4	Bias (2-2) Level adj.	ch-2, MONITOR EFFECT Terminal	jVR5 <F-5274>	Fig. 3-16  Wave form is desheveled. 1) Adjust ch-2 input signal wave form to a correct form by jVR5.	Same as above
5	AUTO FADER Level adj. (AUTO FADER)	ch-1, VCR-A INPUT Terminal, ch-2 MONITOR EFFECT Terminal	jVR8 <F-5274>	1) Match ch-1 input signal level with ch-2 input signal level by jVR8.	<ul style="list-style-type: none"> <li>OSC SCOPE: VERTICAL MODE "ALT".</li> <li>Set other switches as above.</li> </ul>
6	AUTO FADER Level adj. (AUTO FADER By-Pass)	Same as above	jVR7 <F-5274>	1) Match ch-1 input signal level with ch-2 input signal level by jVR7, when AUTO FADER is off, by repeatedly turning on or off AUTO FADER switch.	Same as above
7	AUTO FADER Level adj. (BACK GROUND COLOR)	Same as above	jVR6 <F-5274>	1) Match ch-1 input signal level with ch-2 input signal level by jVR6, when AUTO FADER is on, by repeatedly turning on or off AUTO FADER switch.	<ul style="list-style-type: none"> <li>Turn on AUTO FADER and set IN/OUT to OUT (Fade-out operation)</li> <li>Turn on WIPE and set HORIZONTAL and VERTICAL controls full downward toward you. Set other switches as above.</li> </ul>

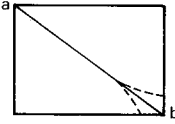

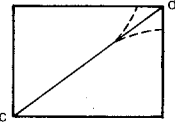

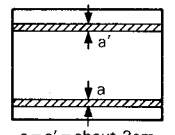

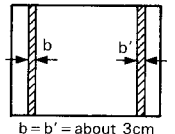

### 3-5. WIPE PATTERN Adjustment

Conditions: 1. OSC Output..... PATTERN GENERATOR <EIA COLOR BAR>

2. Connection Point..... VCR-A INPUT Terminal.

STEP	SUBJECT	MEASURE OUTPUT	ADJUST	ADJUSTMENT FOR	SETTING CONDITIONS AND REMARKS
1	Circle WIPE PATTERN adj. (In the horizontal direction)	ch-1, VCR-A INPUT Terminal, ch-2, TP-1 (fIC2-Pin1) MONITOR EFFECT Terminal, COLOR MONITOR TV.	fVR18, fVR5. <F-5273>	Fig. 3-17  <p>1) Set a point A of ch-2 signal at the middle point of ch-1 burst signal (in the horizontal direction) by fVR18.  2) Set ch-2 signal wave form to about 8Vp-p by fVR5 so that the circle is symmetrical right and left in the horizontal direction on color monitor TV.</p>	<ul style="list-style-type: none"> <li>Turn on WIPE and set WIPE PATTERN to <math>\square</math>. Set other switches to the condition where power is turned on.</li> <li>OSC SCOPE: TIME 10<math>\mu</math>sec, EXT. TRIG "H", SCLOPE "-", VERTICAL MODE "ALT".</li> <li>Project wipe pattern on color monitor TV by HORIZONTAL control.</li> <li>* See "Component Arrangement View on Printed Board" on page 23 with respect to the measuring and adjusting positions on board F-5273.</li> </ul>
2	Circle WIPE PATTERN adj. (In the vertical direction)	ch-1, VCR-A INPUT Terminal, ch-2 TP-2 (fIC13-Pin1) <F-5273> MONITOR TV.	fVR21, fVR7 <F-5273>	Fig. 3-18  <p>1) Match B-portion of ch-2 signal with the end of ch-1 vertical blanking interval by fVR21. Further, check that the C-portion lies within the vertical blanking interval (in the vertical direction).  2) Set ch-2 signal wave form to about 7Vp-p by fVR7 so that the circle is symmetrical above and below in the vertical direction on color monitor TV.</p>	<ul style="list-style-type: none"> <li>Set various switches as above.</li> <li>OSC SCOPE: TIME 2msec, EXT. TRIG "V", SLOPE "-", VERTICAL MODE "CHOP".</li> </ul>
3	Circle WIPE PATTERN Parameter adj.	MONITOR EFFECT Terminal, COLOR MONITOR TV.	fVR6 <F-5273>	1) Adjust the circle to a truly round shape as closely as possible by fVR6.	<ul style="list-style-type: none"> <li>Set various switches as above.</li> </ul>
4	Diamond WIPE PATTERN Position adj. (In the horizontal direction)	Same as above	fVR12 <F-5273>	Fig. 3-19  <p>1) Adjust angle positions A and B to horizontal middle position.</p>	<ul style="list-style-type: none"> <li>Turn on WIPE and set WIPE PATTERN to <math>\square</math>. Set other switches to the condition where power is turned on.</li> <li>Project wipe PATTERN on the color monitor by HORIZONTAL control.</li> </ul>
5	Diamond WIPE PATTERN Position adj. (In the vertical direction)	Same as above	fVR11 <F-5273>	Fig. 3-20  <p>1) Adjust angle positions C and D to vertical middle position.</p>	Same as above
6	Diamond WIPE PATTERN form adj. (In the horizontal direction)	Same as above	fVR13 <F-5273>	Fig. 3-21  <p>1) Adjust angles a and b so as to be equal to each other by fVR13 (symmetrical right and left).</p>	Same as above
7	Diamond WIPE PATTERN form adj. (In the vertical direction)	Same as above	fVR15 <F-5273>	Fig. 3-22  <p>1) Adjust angles c and d so as to be equal to each other by fVR15 (symmetrical above and below).</p>	Same as above
8	Diamond WIPE PATTERN form parameter adj.	Same as above	fVR14 <F-5273>	Fig. 3-23  <p>1) Adjust four corners so as to be inscribed to the screen edges by fVR14.</p>	<ul style="list-style-type: none"> <li>Project WIPE PATTERN full on the screen by HORIZONTAL control. Set other switches as above.</li> </ul>

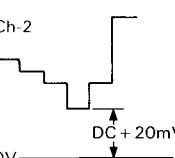
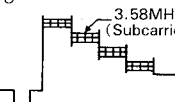
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STEP	SUBJECT	MEASURE OUTPUT	ADJUST	ADJUSTMENT FOR	SETTING CONDITIONS AND REMARKS
9	Triangle (INV. Saw) WIPE PATTERN adj.	MONITOR EFFECT Terminal, COLOR MONITOR TV.	rVR17 <F-5273>	Fig. 3-24 	1) Adjust the diagonal line so as to connect two corners a and b on the screen by rVR17. <ul style="list-style-type: none"><li>• Set WIPE PATTERN to .</li><li>• Set the upper side of the diagonal line at corner a by HORIZONTAL WIPE control.</li><li>• Set other switches as above.</li></ul>
10	Triangle (Saw) WIPE PATTERN adj.	Same as above	rVR16 <F-5273>	Fig. 3-25 	1) Adjust the diagonal so as to connect two corners c and d on the screen by rVR16. <ul style="list-style-type: none"><li>• Set WIPE PATTERN to .</li><li>• Set the lower side of the diagonal line at corner c by HORIZONTAL WIPE control.</li><li>• Set other switches as above.</li></ul>
11	Square (Saw-2) WIPE PATTERN adj. (In the vertical direction)	Same as above	rVR10 <F-5273>	Fig. 3-26  a = a' = about 3cm	1) Adjust the width a of upper horizontally long and narrow rectangle so as to match that a' of lower horizontally long and narrow rectangle by rVR10. <ul style="list-style-type: none"><li>• Set WIPE PATTERN to .</li><li>• Project rectangles as shown on the color monitor TV by HORIZONTAL WIPE and VERTICAL WIPE controls.</li><li>• Move the rectangle up and down by POSITIONER.</li><li>• Set other switches as above.</li></ul>
12	Square (Saw-2) WIPE PATTERN adj. (In the horizontal direction)	Same as above	rVR9 <F-5273>	Fig. 3-27  b = b' = about 3cm	1) Adjust the width b of left vertically long and narrow rectangle so as to match that b' of right vertically long and narrow rectangle by rVR9. <ul style="list-style-type: none"><li>• Project rectangles as shown on the color monitor TV by HORIZONTAL WIPE and VERTICAL WIPE controls.</li><li>• Move the rectangle right and left by POSITIONER.</li><li>• Set other switches as above.</li></ul>
13	WIPE PATTERN Compensation adj.	Same as above	rVR8 <F-5273>	1) Select all the WIPE PATTERN (except WIPE PATTERN) switches and adjust rVR8 so that each wipe pattern selected by each switch does not remain both in WIPE NORMAL and WIPE REVERSE. 2) Check that the wipe pattern spreads full on the screen when HORIZONTAL WIPE and VERTICAL WIPE are set at a position 5mm downward away from the extreme upper position.	<ul style="list-style-type: none"><li>• Set HORIZONTAL WIPE and VERTICAL WIPE controls at a position 5mm upward away from the extreme lower position (extremely toward you).</li><li>• POSITION Center Position</li><li>• Select all the wipe patterns.</li><li>• Select either WIPE NORMAL or REVERSE.</li><li>• Be extremely careful doing this when WIDE PATTERN is set to .</li></ul>

### 3-6. VIDEO ART Level and COLOR CORRECTOR Signal Adjustment

Conditions: 1. OSC Output..... PATTERN GENERATOR <EIA COLOR BAR>

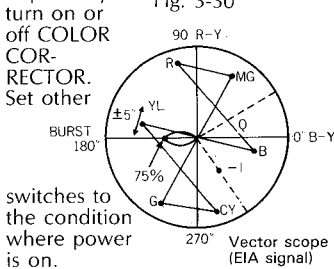


2. Connection Point..... VCR-A INPUT Terminal.

STEP	SUBJECT	MEASURE OUTPUT	ADJUST	ADJUSTMENT FOR	SETTING CONDITIONS AND REMARKS
1	VIDEO ART Level adj.	ch-2, TP-A (rIC4-Pin3) <F-5273>	rVR4 <F-5273>	Fig. 3-28 	1) Adjust SYNC tip of ch-2 input signal to DC + 20mV by rVR4. 2) The same as above both in VIDEO ART NORMAL and REVERSE. <ul style="list-style-type: none"><li>• Turn on VIDEO ART ON. VIDEO ART NORMAL and REVERSE. Set other switches to the condition where power is turned on.</li><li>• OSC SCOPE: TIME 10μsec, EXT. TRIG "H", SLOPE "-", Input coupling switch "DC".</li><li>* See "Component Arrangement View on Printed Board" on page 23 with respect to the measuring and adjusting positions on board F-5273.</li></ul>
2	COLOR CORRECTOR Signal adj.	ch-2, TP-B (rQ4 Emitter) <F-5273>	rT1 <F-5273>	Fig. 3-29 	1) Minimize subcarrier of ch-2 input wave form by rT1. <ul style="list-style-type: none"><li>• OSC SCOPE: Input coupling switch "AC" Others are the same as above.</li></ul>



### 3-7. Hue Adjustment < In case of using VECTOR SCOPE >

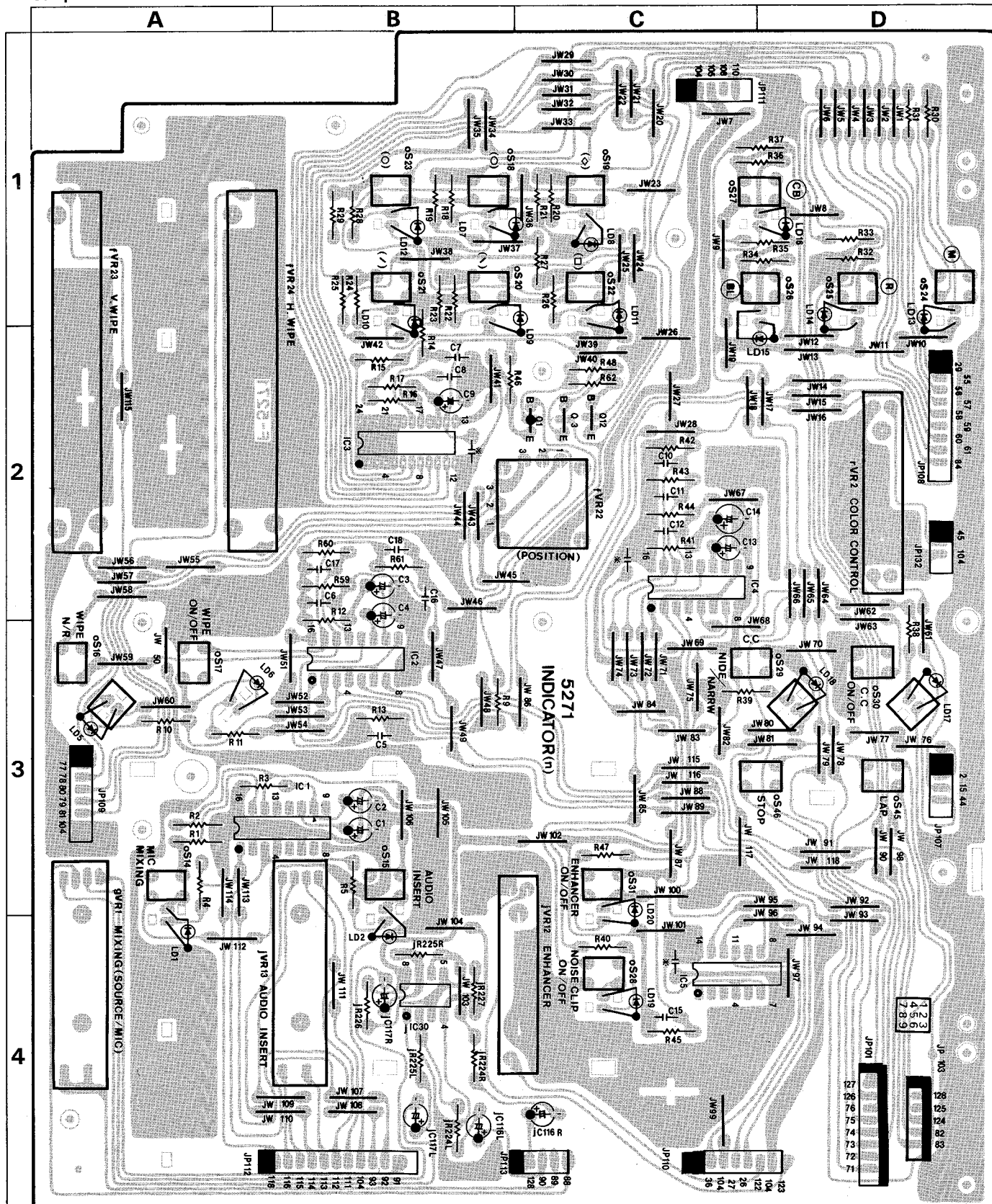
- Conditions:** 1. Perform the adjustments after ten minutes or more have elapsed.  
 2. Perform the adjustments after Adjustments stated in Items 3-1 to 3-6 have been completed.  
 3. Oscillator output ..... Pattern generator (EIA COLOR BAR)  
 4. Connected position ..... VCR-A INPUT terminal  
 5. Vector scope ..... 75% scale (in saturation rate).

STEP	SUBJECT	MEASURE OUTPUT	ADJUST	ADJUSTMENT FOR	SETTING CONDITIONS AND REMARKS
1	Phase of Circuit adj.	MONITOR EFFECT Terminal, VECTOR SCOPE, COLOR MONITOR TV.	rLF2 <F-5273> rLF1 <F-5273>	1) Adjust "YL" dot phase within an allowable range of about $\pm 5$ degrees on vector scope by rLF2 while turning COLOR CORRECTOR on or off. (See Fig. 3-30) 2) If out of the allowable range, adjust rFL1.	<ul style="list-style-type: none"> <li>Repeatedly turn on or off COLOR CORRECTOR. Set other switches to the condition where power is on.</li> </ul>  <p>Fig. 3-30 Vector scope (EIA signal)</p>
2	Burst Signal Phase and Level adj.	Same as above	jT1, jVR9 <F-5274>	1) Adjust burst signal phase (180 degrees) by jT1. (See Fig. 3-30) 2) Adjust burst signal level to 75% scale by jVR9. (See Fig. 3-30)	<ul style="list-style-type: none"> <li>Set various switches to the condition where power is on.</li> <li>Adjust vector scope phase to the normal phase of each color. (See Fig. 3-30)</li> </ul>
3	Sub Carrier adj. (VIDEO Modulator Signal)	ch-2, TP-1 (JP32 or rR106) <F-5274> MONITOR EFFECT Terminal, VECTOR SCOPE, COLOR MONITOR TV.	rVR9, rT3, rL4 <F-5274>	1) Adjust subcarrier level of ch-2 inpt signal to its maximum by rL4. 2) Adjust COLOR BAR of BACKGROUND COLOR to a correct hue on vector scope by rT3 and rVR9. In this case, adjust subcarrier level of ch-2 input signal to 1.4Vp-p or more. (See Fig. 3-30)	<ul style="list-style-type: none"> <li>Turn on WIPE. Set HORIZONTAL WIPE and VERTICAL WIPE controls full downward. (  •  )</li> <li>Set BACK COLOR to COLOR BAR. Set other switches to the condition where power is on.</li> <li>OSC SCOPE: TIEM 20<math>\mu</math>sec, EXT. TRIG "H", SLOPE "—".</li> </ul>
4	Sub Carrier (Internal Synchronizing Signal) Phase adj.	Same as above	fT1 <F-5275>	1) Adjust BACKGROUND COLOR BAR to a correct hue on vector scope by fT1. (See Fig. 3-30)	<ul style="list-style-type: none"> <li>Remove PATTERN GENERATOR output from VCR-A INPUT terminal (Select VCR-B).</li> <li>Set vector scope synchronization switching to internal (input signal) synchronization.</li> <li>Set switches as above.</li> </ul>

# 4. PARTS LOCATION & PARTS LIST

## 4-1. F-5271 Control Volume and Switch (WIPE•BACK GROUND COLOR etc.) Board (Stock No. 00951601)

Component Side



## Parts List &lt;F-5271&gt;

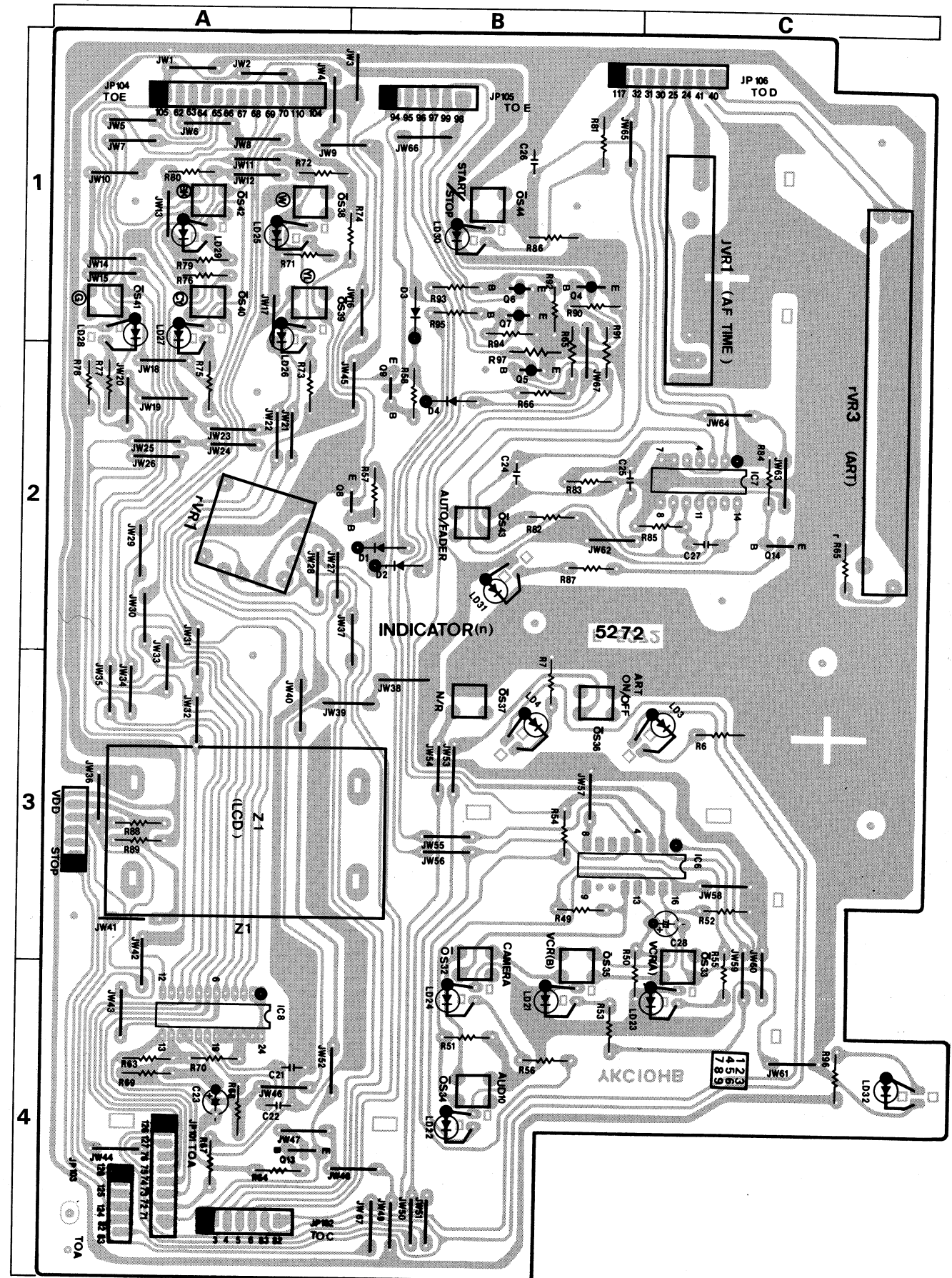
Parts No.	Stock No.	Description
fVR22	48351600	10k $\Omega$ (B) V.R., POSITIONER
fVR23	48351500	10k $\Omega$ (B) V.R., VERTICAL
fVR24	48351500	10k $\Omega$ (B) V.R., HORIZONTAL
gVR1	48351300	50k $\Omega$ (B) V.R., MIC MIXING
•IC		
jIC30	07208900 or 46580100	NJM4558D-X M5218P
jVR13	48351400	100k $\Omega$ (B) V.R., SOUND MIXING
jVR12	48351100	5k $\Omega$ (B) V.R., ENHANCER VOLUME
•Transistor		
nQ1	46367001	2SA1115
nQ3	46367101	2SC2603
nQ12	46367101	2SC2603
nQ15	46367101	2SC2603
nQ18	48183400	DTA114YS
nQ19	48183400	DTA114YS
•IC		
nIC1	48239100	TC9130P
nIC2	48239100	TC9130P
nIC3	48353700	IR2P02T
nIC4	48239100	TC9130P
nIC5	07207300	MB84013BM
•Diode		
nD5	03117600 or 46086000	1S2473T77 1S1588TP-3
•LED		
nLD1	48126300	SEL2210S, SOUND MIXING
nLD2	48126300	SEL2210S, MIC MIXING
nLD5	48126300	SEL2210S, WIPE NORMAL/ REVERSE
nLD6	48126300	SEL2210S, WIPE ON
nLD7	46470300	SEL2410E, WIPE PATTERN
nLD8	46470300	SEL2410E, WIPE PATTERN
nLD9	46470300	SEL2410E, WIPE PATTERN
nLD10	46470300	SEL2410E, WIPE PATTERN
nLD11	46470300	SEL2410E, WIPE PATTERN
nLD12	46470300	SEL2410E, WIPE PATTERN
nLD13	46470300	SEL2410E, MAGENTA
nLD14	46470300	SEL2410E, RED
nLD15	46470300	SEL2410E, BLUE
nLD16	46470300	SEL2410E, COLOR BAR
nLD17	48126300	SEL2210S, COLOR CORRECTOR ON
nLD18	48126300	SEL2210S, NARROW/WIDE
nLD19	48126300	SEL2210S, NOISE CUT
nLD20	48126300	SEL2210S, ENHANCER ON
oS14	46708100	Push SW., MIC MIXING
oS15	46708100	Push SW., SOUND MIXING
oS16	46708100	Push SW., WIPE NORMAL/REVERSE
oS17	46708100	Push SW., WIPE ON
oS18	46708100	Push SW., WIPE PATTERN
oS19	46708100	Push SW., WIPE PATTERN
oS20	46708100	Push SW., WIPE PATTERN
oS21	46708100	Push SW., WIPE PATTERN
oS22	46708100	Push SW., WIPE PATTERN
oS23	46708100	Push SW., WIPE PATTERN
oS24	46708100	Push SW., MAGENTA
oS25	46708100	Push SW., RED
oS26	46708100	Push SW., BLUE
oS27	46708100	Push SW., COLOR BAR
oS28	46708100	Push SW., NOISE CUT
oS29	46708100	Push SW., NARROW/WIDE
oS30	46708100	Push SW., COLOR CORRECTOR ON
oS31	46708100	Push SW., ENHANCER ON
oS45	46708100	Push SW., LAP/RESET
oS46	46708100	Push SW., START/STOP
rVR2	48351000	1k $\Omega$ (B) V.R., COLOR LEVEL

## 4-2. F-5272 Control Volume and Switch (SELECTOR•AV AUTO FADER etc.) Board (Stock No. 00951701)

## Parts List &lt;F-5272&gt;

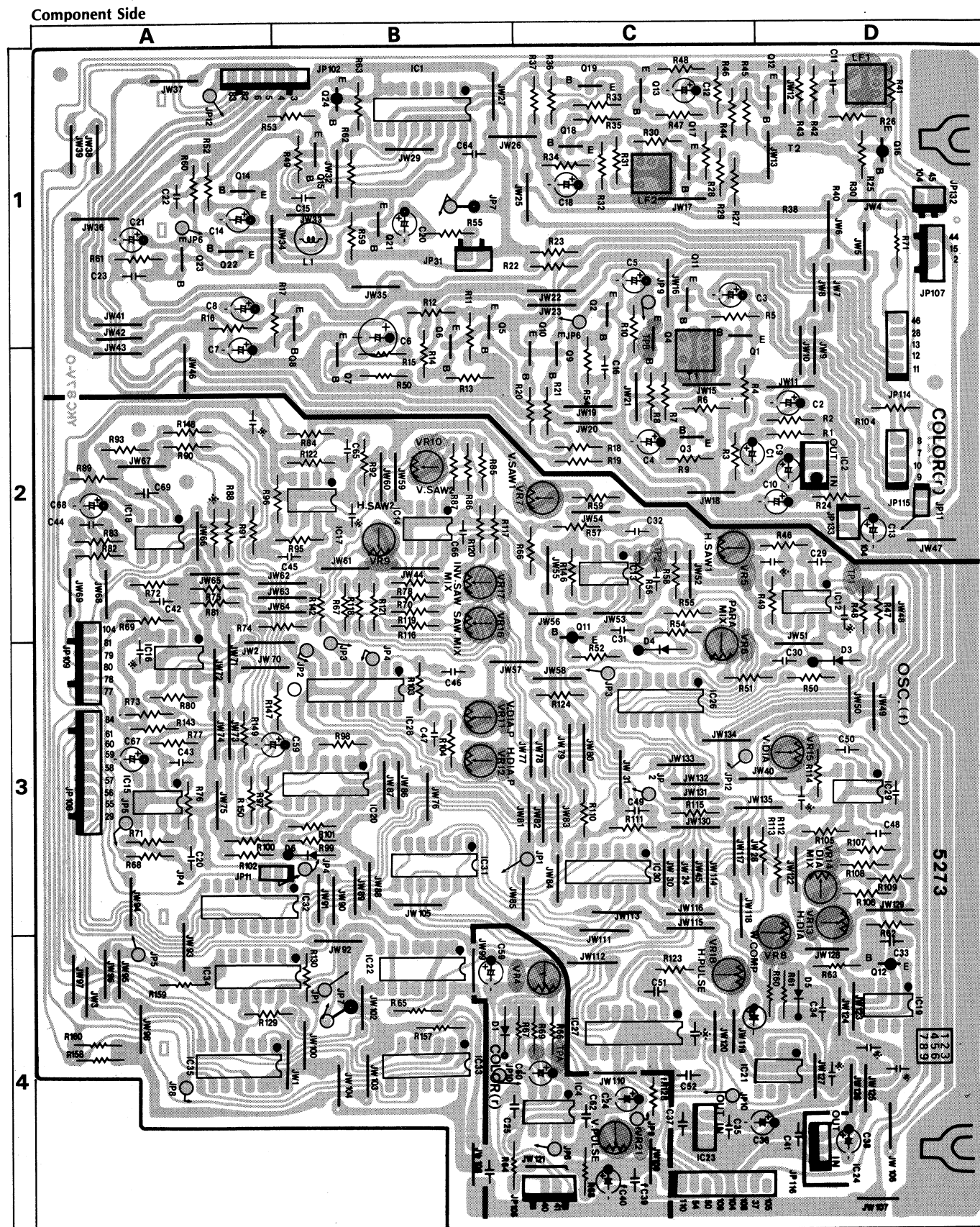
Parts No.	Stock No.	Description
jVR1	48351200	1M $\Omega$ (B) V.R., FADER DURATION
nZ1	48336400	Liquid Crystal Display Module
•Transistor		
nQ4	46367001	2SA1115
nQ5	46367001	2SA1115
nQ6	46367001	2SA1115
nQ7	46367001	2SA1115
nQ8	46367101	2SC2603
nQ9	46367101	2SC2603
nQ13	46367101	2SC2603
nQ14	46367101	2SC2603
nQ16	46367101	2SC2603
nQ17	48183400	DTA114YS
•IC		
nIC6	48109600	TC9135P
nIC7	07207300	MB84013BM
nIC8	48353700	IR2P02T
•Diode		
nD1	03117600 or 46086000	1S2473T77 1S1588TP-3
nD2	03117600 or 46086000	1S2473T77 1S1588TP-3
nD3	03117600 or 46086000	1S2473T77 1S1588TP-3
nD4	03117600 or 46086000	1S2473T77 1S1588TP-3
nD6	03117600 or 46086000	1S2473T77 1S1588TP-3
•LED		
nLD3	48126300	SEL2210S, VIDEO ART ON
nLD4	48126300	SEL2210S, VIDEO ART NORMAL/ REVERSE
nLD21	46470300	SEL2410E, VCR-B
nLD22	46470300	SEL2410E, AUDIO
nLD23	46470300	SEL2410E, VCR-A
nLD24	46470300	SEL2410E, CAMERA
nLD25	46470300	SEL2410E, WHITE
nLD26	46470300	SEL2410E, YELLOW
nLD27	46470300	SEL2410E, CYAN
nLD28	46470300	SEL2410E, GREEN
nLD29	46470300	SEL2410E, BLACK
nLD30	46470300	SEL2410E, AUTO FADER IN/OUT
nLD31	48126300	SEL2210S, AUTO FADER ON
nLD32	48126300	SEL2210S, POWER
oS32	46708100	Push SW., CAMERA
oS33	46708100	Push SW., VCR-A
oS34	46708100	Push SW., AUDIO
oS35	46708100	Push SW., VCR-B
oS36	46708100	Push SW., ART ON
oS37	46708100	Push SW., ART NORMAL/ REVERSE
oS38	46708100	Push SW., WHITE
oS39	46708100	Push SW., YELLOW
oS40	46708100	Push SW., CYAN
oS41	46708100	Push SW., GREEN
oS42	46708100	Push SW., BLACK
oS43	46708100	Push SW., AUTO FADER ON
oS44	46708100	Push SW., AUTO FADER IN/OUT
rVR1	48316200	1k $\Omega$ (B) V.R., COLOR CONTROLLER
rVR3	48351500	10k $\Omega$ (B) V.R., PICTURE EFFECTOR

## Component Side





## 4-3. F-5273 WIPE PATTERN Generator and Color Control Board (Stock No. 00951801)



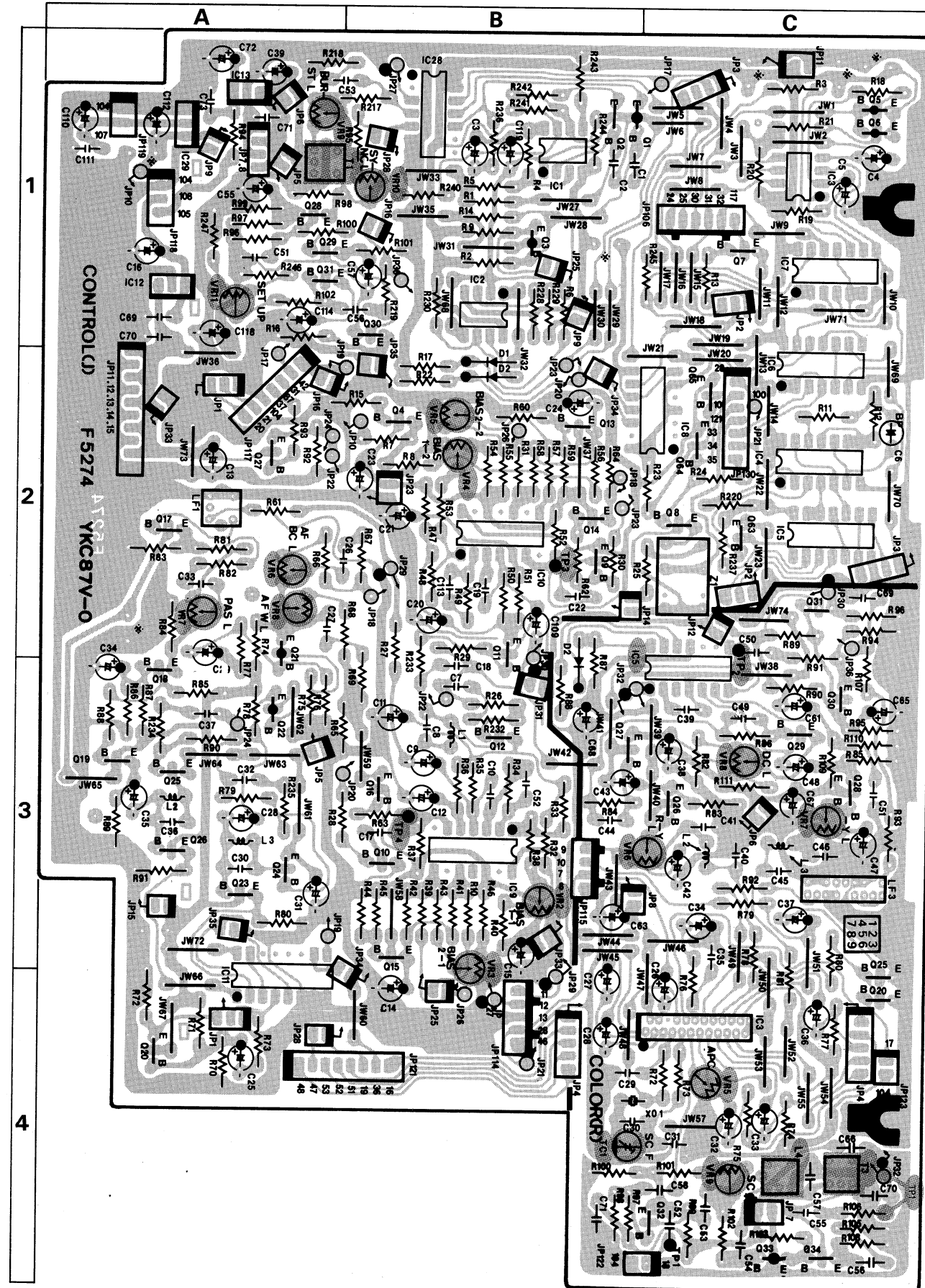
## Parts List &lt;F-5273&gt;

Parts No.	Stock No.	Description
• Transistor		
fQ11	48229400	DTA114TS
fQ12	46367001	2SA1115
• IC		
fIC12	03613800	NJM4559D-D
	or 48376600	IR94559 OP AMP
fIC13	03613800	NJM4559D-D
	or 48376600	IR94559 OP AMP
fIC14	03613800	NJM4559D-D
	or 48376600	IR94559 OP AMP
fIC15	03613800	NJM4559D-D
	or 48376600	IR94559 OP AMP
fIC16	03613800	NJM4559D-D
	or 48376600	IR94559 OP AMP
fIC17	03613800	NJM4559D-D
	or 48376600	IR94559 OP AMP
fIC18	03613800	NJM4559D-D
	or 48376600	IR94559 OP AMP
fIC19	03613800	NJM4559D-D
	or 48376600	IR94559 OP AMP
fIC20	48308000	IR2339
fIC21	48369000	IR9311
fIC22	48353400	TC74HC00P
fIC23	46581200	NJM79M12A
fIC24	48341300	NJM7812A
fIC26	07224800	TC4066BP
	or 48054500	MSM4066BRS
	or 48063800	BU4066B
fIC27	46122900	MSM4538RS
	or 46160800	TC4538BP
fIC28	46122900	MSM4538RS
	or 46160800	TC4538BP
fIC29	03613800	NJM4559D-D
fIC30	07224800	TC4066BP
	or 48054500	MSM4066BRS
	or 48063800	BU4066B
fIC31	03604100	TC4011P
	or 48050100	MSM4011BRS
	or 48063700	BU4011B
fIC32	46160500	TC4049BP
	or 48050400	MSM4049BRS
fIC33	98003200	HD74LS00P
	or 98003300	MB74LS00
fIC34	46148500	HD7407P
	or 46220600	M53207P
	or 46429500	SN7407
fIC35	46545600	M74LS86P
	or 46863100	MB74LS86
• Diode		
fD3	03117600	1S2473T77
	or 46086000	1S1588TP-3
fD4	03117600	1S2473T77
	or 46086000	1S1588TP-3
fD5	03117600	1S2473T77
	or 46086000	1S1588TP-3
fD6	03117600	1S2473T77
	or 46086000	1S1588TP-3
fC29	46692800	1000pF 50V F.C.
fC31	46696000	0.022μF 50V F.C.
fC32	46696800	0.047μF 50V F.C.
fC46	46695800	0.018μF 50V F.C.
fC47	46692800	1000pF 50V F.C.
fC50	46696000	0.022μF 50V F.C.
fC51	46692800	1000pF 50V F.C.
fC52	46695800	0.018μF 50V F.C.
fC74	08404000	1μF 50V E.C.
fC75	08404000	1μF 50V E.C.
fC76	08404000	1μF 50V E.C.
fVR5	46634500	22kΩ S.V.R., WIPE □ adj.

Parts No.	Stock No.	Description
fVR6	46634300	10kΩ S.V.R., WIPE □ adj.
fVR7	46635100	220kΩ S.V.R., WIPE □ adj.
fVR8	46634500	22kΩ S.V.R., WIPE COMP adj.
fVR9	46634300	10kΩ S.V.R., WIPE □ adj.
fVR10	46634300	10kΩ S.V.R., WIPE □ adj.
fVR11	46635100	220kΩ S.V.R., WIPE □ adj.
fVR12	46634500	22kΩ S.V.R., WIPE □ adj.
fVR13	46634900	100kΩ S.V.R., WIPE □ adj.
fVR14	46634300	10kΩ S.V.R., WIPE □ adj.
fVR15	46635300	470kΩ S.V.R., WIPE □ adj.
fVR16	46634300	10kΩ S.V.R., WIPE □ adj.
fVR17	46634300	10kΩ S.V.R., WIPE □ adj.
fVR18	46634500	22kΩ S.V.R., WIPE H adj.
fVR21	46635100	220kΩ S.V.R., WIPE V adj.
• Transistor		
rQ1	46367101	2SC2603
rQ2	46367101	2SC2603
rQ3	46393201	2SC2786
rQ4	46367101	2SC2603
rQ5	46367101	2SC2603
rQ6	46367101	2SC2603
rQ7	46367101	2SC2603
rQ8	46367101	2SC2603
rQ9	46367101	2SC2603
rQ10	46367101	2SC2603
rQ11	46367101	2SC2603
rQ12	46393201	2SC2786
rQ13	46367101	2SC2603
rQ14	46367101	2SC2603
rQ15	46367101	2SC2603
rQ16	46367001	2SA1115
rQ17	46367101	2SC2603
rQ18	46393201	2SC2786
rQ19	46367101	2SC2603
rQ21	46367101	2SC2603
rQ22	46367101	2SC2603
rQ23	46367101	2SC2603
rQ24	46367001	2SA1115
• IC		
rIC1	46545800	TC4053BP
rIC2	46359400	L78N05
rIC4	48369000	IR9311
• Diode		
rD1	03117600	1S2473T77
	or 46086000	1S1588TP-3
rLF1	48350500	Low Pass Filter
rLF2	48350400	Low Pass Filter
rL1	46204500	Inductor 10μH
rT1	48350000	Trap Filter
rVR4	46633900	2.2kΩ S.V.R., VIDEO ART Level adj.

# 4-4. F-5274 AUTO FADER and COLOR CORRECTOR Board (Stock No. 00951901)

Component Side



## Parts List < F-5274 >

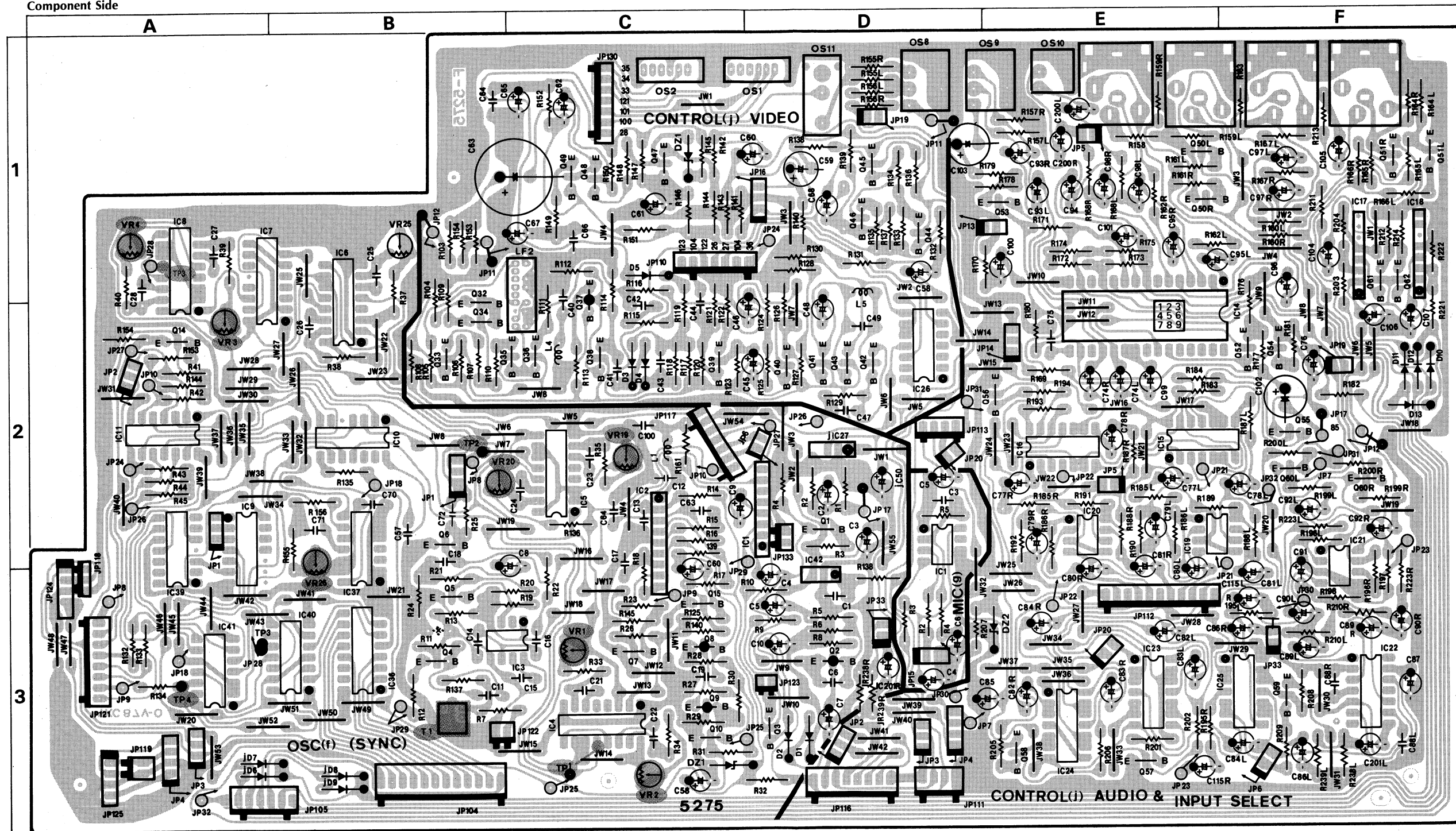
Parts No.	Stock No.	Description
•Transistor		
Q1	46367001	2SA1115
Q2	46367101	2SC2603
Q3	46367001	2SA1115
Q4	46367101	2SC2603
Q5	48229400	DTA114TS
Q6	48229400	DTA114TS
Q7	46367101	2SC2603
Q8	46367001	2SA1115
Q9	46393201	2SC2786
Q10	46393201	2SC2786
Q11	46367101	2SC2603
Q12	46367101	2SC2603
Q13	46367101	2SC2603
Q14	46367101	2SC2603
Q15	46367101	2SC2603
Q16	46367101	2SC2603
Q17	46393201	2SC2786
Q18	46393201	2SC2786
Q19	46367101	2SC2603
Q20	46367101	2SC2603
Q21	46392001	2SA1175
Q22	46367001	2SA1115
Q23	46367101	2SC2603
Q24	46367101	2SC2603
Q25	46367101	2SC2603
Q26	46367101	2SC2603
Q27	46367101	2SC2603
Q28	46393201	2SC2786
Q29	46367101	2SC2603
Q30	46367101	2SC2603
Q31	46367101	2SC2603
Q63	48230300	DTC124XS
Q64	46834300	DTC144ES
Q65	46834300	DTC144ES
•IC		
IC1	07208900	NJM4558D-X
IC2	07208900	NJM4558D-X
IC3	03604100	TC4011P
IC4	03604100	TC4011P
IC5	03610500	TC4001BP
IC6	03610500	TC4001BP
IC7	03610500	TC4001BP
IC8	07207300	MB84013BM
IC9	46723700	NJM1496D
IC10	46723700	NJM1496D
IC11	46545800	TC4053BP
IC12	46361500	L78N12
IC13	46359400	L78N05
IC28	07224800	TC4066BP
IC29	46581200	NJM79M12A
•Diode		
JD1	03117600	1S2473T77
JD2	03117600	1S2473T77
JD6	48103400	1μF 50V E.B.

Parts No.	Stock No.	Description
IC17	46695200	0.01μF 50V F.C.
IC22	46695200	0.01μF 50V F.C.
IC56	46673200	0.22μF 63V F.C.
IC119	46297500	22μF 25V E.C.
JLF1	48354100	Low Pass Filter
JL1	46204500	Inductor 10μH
JL2	46204500	Inductor 10μH
JL3	46204500	Inductor 10μH
JT1	48350100	Trap Filter
JVR2	46634300	10kΩ S.V.R., FADER Pedestal Level adj.
JVR3	46634700	47kΩ S.V.R., FADER BIAS Level adj.
JVR4	46634300	10kΩ S.V.R., FADER Pedestal Level adj.
JVR5	46634700	47kΩ S.V.R., FADER BIAS Level adj.
JVR6	46633700	1kΩ (B) S.V.R., FADER SIG Level adj.
JVR7	46633700	1kΩ (B) S.V.R., FADER SIG Level adj.
JVR8	46633700	1kΩ (B) S.V.R., FADER SIG Level adj.
JVR9	46633500	470Ω S.V.R., BAST SIG Level adj.
JVR10	46634300	10kΩ S.V.R., SYNC SIG Level adj.
JVR11	46634000	3.3kΩ S.V.R., SET-UP Level adj.
JZ1	46630700	Relay
•Transistor		
Q20	48230200	DTC124XS
Q25	46393201	2SC2786
Q26	46393201	2SC2786
Q27	46367101	2SC2603
Q28	46393201	2SC2786
Q29	46367101	2SC2603
Q30	46393201	2SC2786
Q31	46367101	2SC2603
Q32	46393201	2SC2786
Q33	46392001	2SA1175
Q34	46393201	2SC2786
•IC		
IC3	48273500	BA7230LS
IC5	48310300	NJM1372AD
IXO1	09300500	Quartz Crystal NC-18C
•Diode		
RD2	03117600	1S2473T77
RD2	46086000	1S1588TP-3
RC35	46696800	0.047μF 50V F.C.
RC66	48388100	220pF 50V C.C.
RTC1	46437500	Trimmer Capacitor 30pF
RLF3	48336500	Filter
RL2	46313500	Inductor 1.2mH
RL3	46313500	Inductor 1.2mH
RL4	48388500	FM RF Coil
RT3	48350200	Trap Filter
RV5	46634300	10kΩ S.V.R., BAST Phase Cont. adj.
RV6	46634000	3.3kΩ S.V.R., ER-EY Level adj.
RV7	46634000	3.3kΩ S.V.R., EB-EY Level adj.
RV8	46634100	4.7kΩ S.V.R., SUB Carrier Cancel adj.
RV9	46633900	2.2kΩ S.V.R., B. COLOR SUB Car. Phase adj.



4-5. F-5275 Input Selector and Pulse Processor Board (Stock No. 00952001)

Component Side



Parts List

Parts No.	Stock No.	Description
•Transistor		
fQ1	46367101	2SC2603
fQ2	46367001	2SA1115
fQ3	46367101	2SC2603
fQ4	46393201	2SC2786
fQ5	46393201	2SC2786
fQ6	46393201	2SC2786
fQ7	46393201	2SC2786
fQ8	46367001	2SA1115
fQ9	46367001	2SA1115
fQ10	46367101	2SC2603
fQ14	46367101	2SC2603

Parts No.	Stock No.	Description
fQ15	46393201	2SC2786
•IC		
fIC1	48116000	LA7016
fIC2	48310200	TA7357AP
fIC3	48310100	MSM5258RS
fIC4	46429800	MB74LS123M
	or 46720800	M74LS123P
	or 48114600	HD74LS123P
fIC5	46429800	MB74LS123M
	or 46720800	M74LS123P
	or 48114600	HD74LS123P

Parts No.	Stock No.	Description
fIC6	46429800	MB74LS123M
	or 46720800	M74LS123P
	or 48114600	HD74LS123P
fIC7	03604500	TC4520P
	or 46723900	μPD4520BC
	or 48055500	MSM4520BRS
fIC8	46429800	MB74LS123M
	or 46720800	M74LS123P
	or 48114600	HD74LS123P
fIC9	46721000	MB74LS32
	or 46721100	M74LS32P
fIC10	46429700	MB74LS04M

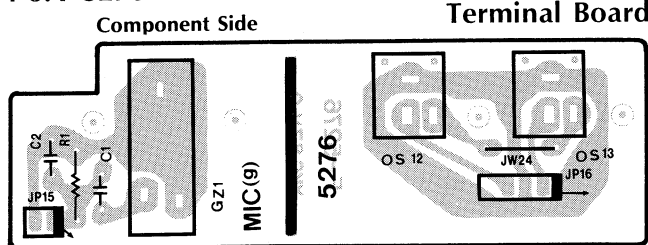
Parts No.	Stock No.	Description
fIC11	46148500	HD7407P
	or 46220600	M53207P
	or 46429500	SN7407
fIC36	48353600	M74LS148P
fIC37	03610500	TC4001BP
	or 48050000	MSM4001BRS
	or 48067200	BU4001B
fIC39	48362100	M74LS93P
fIC40	46636600	M74LS08P
	or 48003000	HD74LS08P
	or 48003100	MB74LS08M
fIC41	46545400	M74LS27P

Parts List < F-5275 >

Parts No.	Stock No.	Description
fIC42	or 48067500	MB74LS27
	or 48067900	HD74LS27P
	46144200	NJM78M05A
	or 46359400	L78N05
•Diode		
fD1	03117600	1S2473T77
	or 46086000	1S1588TP-3
fD2	03117600	1S2473T77
	or 46086000	1S1588TP-3
•Zener Diode		
fDZ1	46112900	05Z9.1-X
fC5	48103500	2.2 $\mu$ F 50V E.B.
fC13	46697600	0.1 $\mu$ F 50V F.C.
fC21	46692800	1000pF 50V F.C.
fC22	46692800	1000pF 50V F.C.
fC23	46692800	1000pF 50V F.C.
fC24	46692800	1000pF 50V F.C.
fC25	46692800	1000pF 50V F.C.
fC26	46695200	0.01 $\mu$ F 50V F.C.
fC27	46696000	0.022 $\mu$ F 50V F.C.
fC28	46696000	0.022 $\mu$ F 50V F.C.
fC63	46696800	0.047 $\mu$ F 50V F.C.
fC73	08404400	10 $\mu$ F 50V E.C.
fL1	46205100	Inductor 100 $\mu$ H
fT1	48350200	Trap Filter
fVR1	46634900	100k $\Omega$ S.V.R., H.B.P adj.
fVR2	46634500	22k $\Omega$ S.V.R., H.B.P adj.
fVR3	46634700	47k $\Omega$ S.V.R., V.B.P adj.
fVR4	46634900	100k $\Omega$ S.V.R., V.B.P adj.
fVR19	46634100	4.7k $\Omega$ S.V.R., B.F.P adj.
fVR20	46634300	10k $\Omega$ S.V.R., B.F.P adj.
fVR26	46634100	4.7k $\Omega$ S.V.R., B.COL.P adj.
•IC		
gIC1	07208900	NJM4558D-X
	or 46580100	M5218P
•Transistor		
jQ32	46367101	2SC2603
jQ33	46393201	2SC2786
jQ34	46367101	2SC2603
jQ35	46393201	2SC2786
jQ36	46367101	2SC2603
jQ37	46367001	2SA1115
jQ38	46367101	2SC2603
jQ39	46367101	2SC2603
jQ40	46393201	2SC2786
jQ41	46367101	2SC2603
jQ42	46367101	2SC2603
jQ43	46367101	2SC2603
jQ44	46367101	2SC2603
jQ45	46367101	2SC2603
jQ46	46367101	2SC2603
jQ47	46367101	2SC2603
jQ48	46367101	2SC2603
jQ49	46367101	2SC2603
jQ50	46367101	2SC2603
jQ51	46367101	2SC2603
jQ52	46367101	2SC2603
jQ53	46367101	2SC2603
jQ54	46367101	2SC2603
jQ55	46367101	2SC2603
jQ56	46367101	2SC2603
jQ57	46367101	2SC2603
jQ58	46367101	2SC2603
jQ59	46367101	2SC2603
jQ60	46367101	2SC2603
jQ61	46367101	2SC2603
jQ62	46367101	2SC2603

Parts No.	Stock No.	Description
•IC		
jIC14	48353800	TA7717AP
jIC15	07224800	TC4066BP
	or 48054500	MSM4066BRS
	or 48063800	BU4066B
jIC16	07224800	TC4066BP
	or 48054500	MSM4066BRS
	or 48063800	BU4066B
jIC17	48116000	LA7016
jIC18	48116000	LA7016
jIC19	07208900	NJM4558D-X
	or 46580100	M5218P
jIC20	07208900	NJM4558D-X
	or 46580100	M5218P
jIC21	07208900	NJM4558D-X
	or 46580100	M5218P
jIC22	48353900	LA2600
jIC23	07224800	TC4066BP
	or 48054500	MSM4066BRS
	or 48063800	BU4066B
jIC24	07224800	TC4066BP
	or 48054500	MSM4066BRS
	or 48063800	BU4066B
jIC25	07224800	TC4066BP
	or 48054500	MSM4066BRS
	or 48063800	BU4066B
jIC26	07224800	TC4066BP
	or 48054500	MSM4066BRS
	or 48063800	BU4066B
jIC27	46144600	NJM78M12A
	or 46361500	L78N12
•Diode		
jD3	03117600	1S2473T77
	or 46086000	1S1588TP-3
jD4	03117600	1S2473T77
	or 46086000	1S1588TP-3
jD5	03117600	1S2473T77
	or 46086000	1S1588TP-3
jD6	03117600	1S2473T77
	or 46086000	1S1588TP-3
jD7	03117600	1S2473T77
	or 46086000	1S1588TP-3
jD8	03117600	1S2473T77
	or 46086000	1S1588TP-3
jD9	03117600	1S2473T77
	or 46086000	1S1588TP-3
jD10	03117600	1S2473T77
	or 46086000	1S1588TP-3
jD11	03117600	1S2473T77
	or 46086000	1S1588TP-3
jD12	03117600	1S2473T77
	or 46086000	1S1588TP-3
jD13	03117600	1S2473T77
	or 46086000	1S1588TP-3
•Zener Diode		
jDZ1	46100000	05Z3.9-X
jDZ2	46111100	05Z5.1-X
△jR171	00118000	22 $\Omega$ 1/4W F.R.
jC63	48166100	2200 $\mu$ F 25V E.C.
jC84	48103500	2.2 $\mu$ F 50V E.B.
jLF2	48336600	Filter
jL4	46205000	Inductor 68 $\mu$ H
jL5	46204500	Inductor 10 $\mu$ H
oS1	46177200	Slide SW., POLARITY
oS2	46177200	Slide SW., ON $\leftrightarrow$ OFF
oS11	46547200	Jack, REMOTO PAUSE
oS4	48392300	3P Terminal Board, INPUT (VCR-A)
oS5	48392300	3P Terminal Board, OUTPUT (VCR-A)
oS6	48392300	3P Terminal Board, INPUT (VCR-B)
oS7	48392300	3P Terminal Board, OUTPUT (VCR-B)
oS8	48310000	3P Terminal Board, EFFECT
oS9	48310000	3P Terminal Board, DIRECT
	48352800	2P Terminal Board, AUDIO INPUT

#### 4-6. F-5276 MIC and EXT PROCESSOR

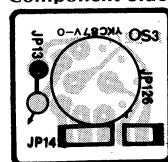


##### Parts List

Parts No.	Stock No.	Description
gC1	46697600	0.1µF 50V F.C.
gZ1	48354000	Jack, MIC
oS12	48354200	1P Terminal Board, EXT PROCESSOR OUT
oS13	48354200	1P Terminal Board, EXT PROCESSOR IN

#### 4-7. F-5277 CAMERA Connector Board

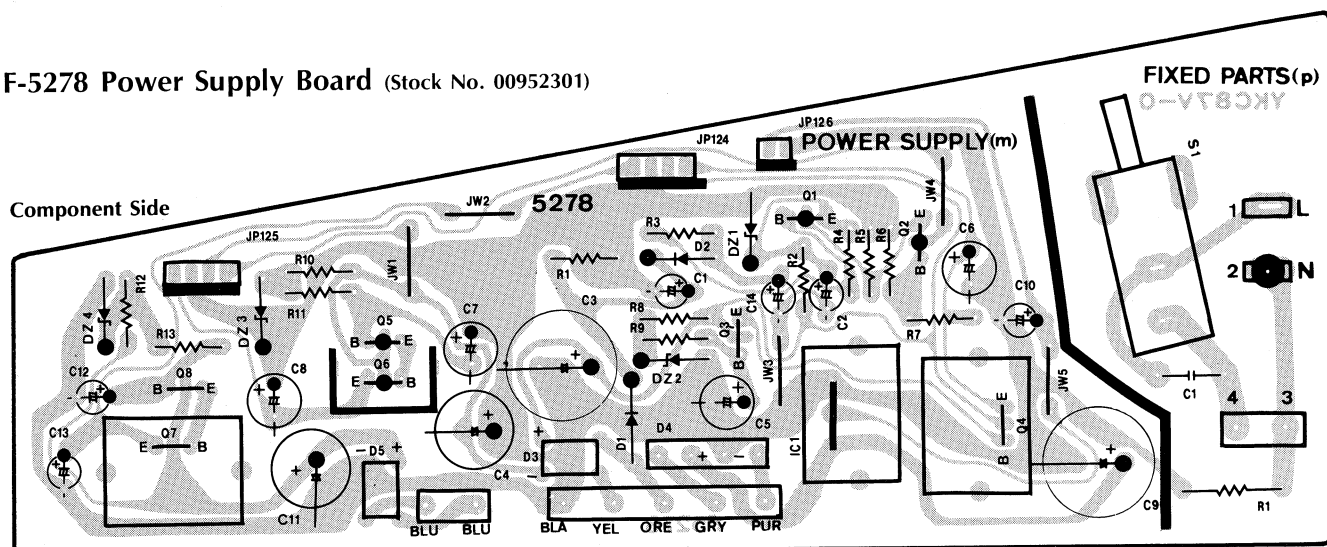
##### Component Side



##### Parts List

Parts No.	Stock No.	Description
oS3	48114800	Video Camera Connector, CAMERA

#### 4-8. F-5278 Power Supply Board (Stock No. 00952301)



##### Parts List

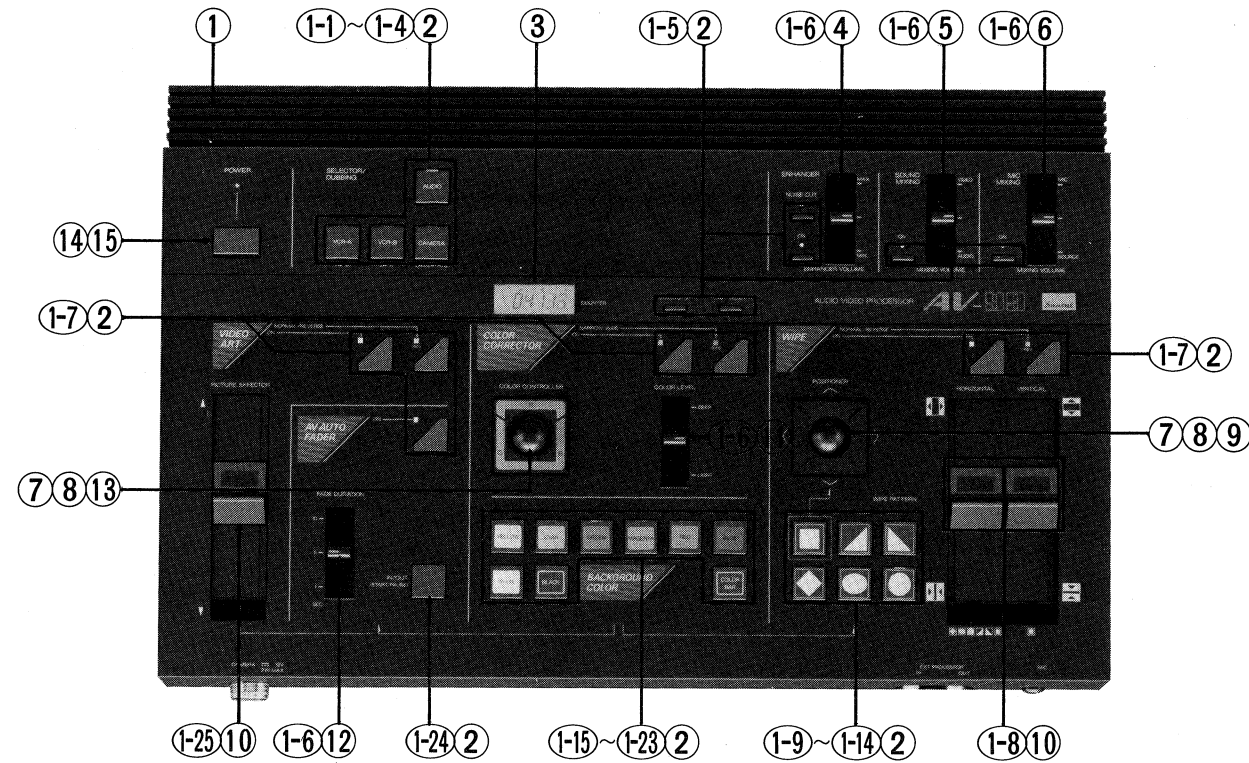
Parts No.	Stock No.	Description
• Transistor		
mQ1	46367001	2SA1115
mQ2	46367001	2SA1115
mQ3	46367101	2SC2603
△mQ4	48150101	2SD1406
mQ5	46367001	2SA1115
△mQ6	48150801	2SB1015
△mQ7	48150101	2SD1406
mQ8	46367101	2SC2603
• IC		
△mIC1	48116100	SI-3122V
• Diode		
mD1	46260300	10E2
mD2	03117600	1S2473T77
	or 46086000	1S1588TP-3
△mD3	46273600	DBB10-B
△	or 46273700	DBB10-C
△	or 48192000	DBB10E
△	or 48192100	DBB10G
△mD4	03117000	RB152-LFF
△	or 48140200	RB152-LFA

Parts No.	Stock No.	Description
△mD5	46273600	DBB10-B
△	or 46273700	DBB10-C
△	or 48192000	DBB10E
△	or 48192100	DBB10G
• Zener Diode		
mDZ1	46113200	05Z10-X
mDZ2	46114100	05Z13-X
mDZ3	46114100	05Z13-X
mDZ4	46111700	05Z6.2-X
△mR2	46236500	470Ω 1/2W N.I.R.
△mR14	46248500	22Ω 1W N.I.R.
mC3	46184700	3300µF 25V E.C.
mC4	48448800	1000µF 35V E.C.
mC9	48166100	2200µF 25V E.C.
mC11	48219500	2200µF 16V E.C.
mC15	48390000	2200µF 25V E.C.
△pC1	46371700	4700pF 400V C.C.
△pS1	46413900	Push SW., POWER <XX-V·UL>
△	48065200	Push SW., POWER <CSA>



## 5. OTHER PARTS

5-1. Top View <Front Panel Ass'y>

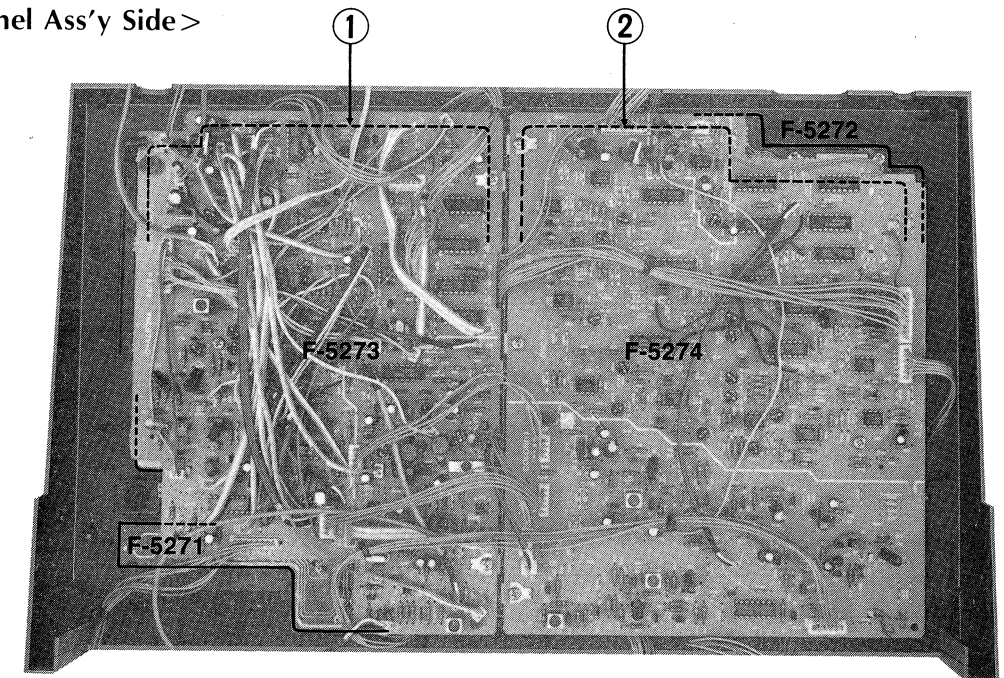


Parts List <Front Panel Ass'y>

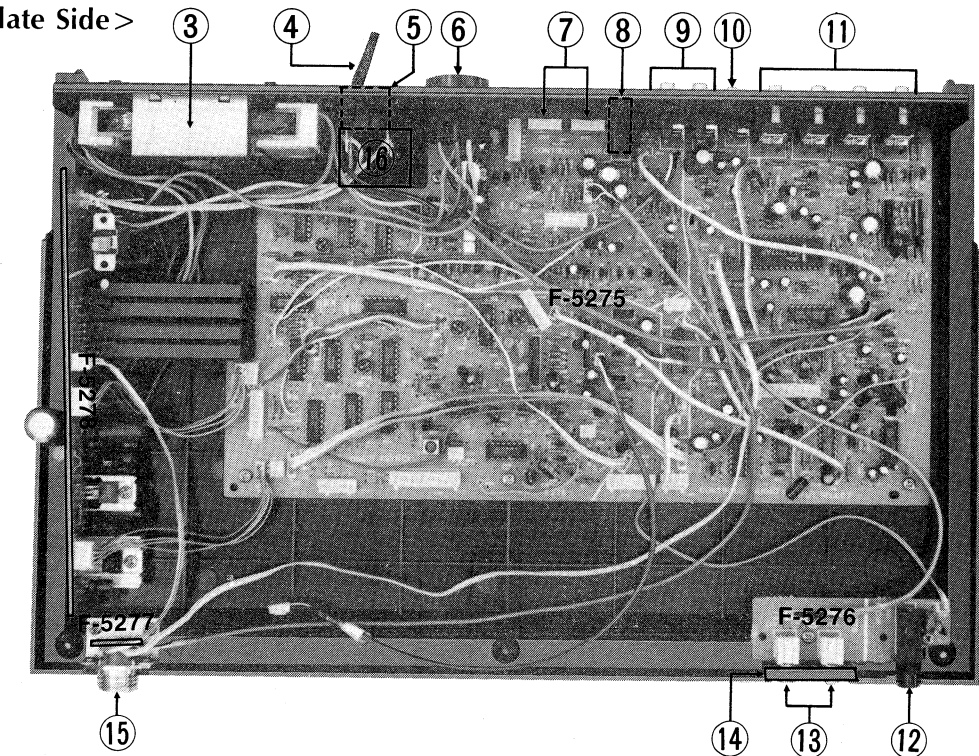
Parts No.	Stock No.	Description
1	27096600	Front Panel Ass'y
1-1	27097900	Push Knob, VCR-A
1-2	27098000	Push Knob, VCR-B
1-3	27098100	Push Knob, AUDIO
1-4	27098200	Push Knob, CAMERA
1-5	27095200	Push Knob, START/STOP•LAP/PRESET•ENHANCER•SOUND MIXING•MIC MIXING
1-6	27097800	Slide Knob Ass'y, ENHANCER•SOUND MIXING•MIC MIXING•COLOR LEVEL•FADE DURATION
1-7	27095900	Push Knob, WIPE NORMAL/REVERSE•WIPE ON, etc.
1-8	27097700	Slide Knob, HORIZONTAL•VERTICAL
1-9	27099200	Push Knob, <input type="checkbox"/>
1-10	27099300	Push Knob, <input type="checkbox"/>
1-11	27099400	Push Knob, <input type="checkbox"/>
1-12	27099500	Push Knob, <input type="checkbox"/>
1-13	27099600	Push Knob, <input type="checkbox"/>
1-14	27099700	Push Knob, <input type="checkbox"/>
1-15	27098300	Push Knob, COLOR BAR
1-16	27098400	Push Knob, BLACK
1-17	27098500	Push Knob, MAGENTA
1-18	27098600	Push Knob, YELLOW
1-19	27098700	Push Knob, CYAN

Parts No.	Stock No.	Description
1-20	27098800	Push Knob, BLUE
1-21	27098900	Push Knob, WHITE
1-22	27099000	Push Knob, RED
1-23	27099100	Push Knob, GREEN
1-24	27112600	Push Knob, IN/OUT
1-25	27097600	Slide Knob, PICTURE EFFECTOR
2	46708100	Push SW., AUDIO•VCR-A•VCR-B•CAMERA•ENHANCER ON•NOISE CUT, etc.
3	48336400	Liquid Crystal Display Module, TIME COUNTER
4	48351100	5k $\Omega$ (B) V.R., ENHANCER VOLUME
5	48351400	100k $\Omega$ (B) V.R., SOUND MIXING
6	48351300	50k $\Omega$ (B) V.R., MIC MIXING
7	27019500	Knob, POSITIONER•COLOR CONTROLLER
8	27097300	Volume Cover
9	48351600	10k $\Omega$ (B) V.R., POSITIONER
10	48351500	10k $\Omega$ (B) V.R., VERTICAL•HORIZONTAL•PICTURE EFFECTOR
11	48351000	1k $\Omega$ (B) V.R., COLOR LEVEL
12	48351200	1M $\Omega$ (B) V.R., FADER DURATION
13	48316200	1k $\Omega$ (B) V.R. COLOR CONTROLLER
14	27039800	Push Knob, POWER
△ 15	46413900	Push SW., POWER <XX-V•UL>
△	48065200	Push SW., POWER <CSA>

5-2. Top View  
<Front Panel Ass'y Side>



5-3. Top View  
<Bottom Plate Side>

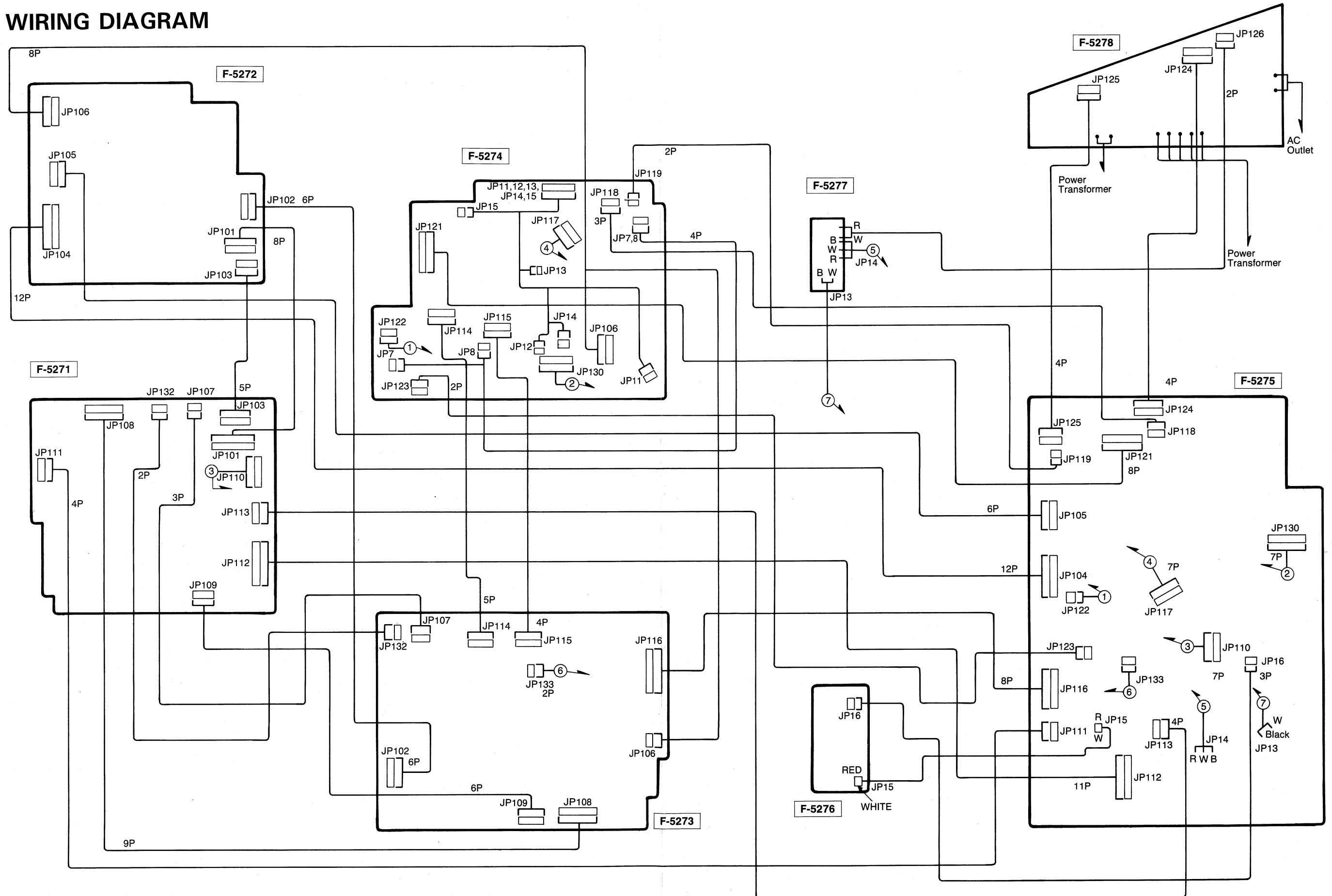


Parts List <Front Panel Side•Bottom Plate Side>

Parts No.	Stock No.	Description
1	27108800	Insulation Plate (B)
2	27108700	Insulation Plate (A)
△ 3	15023609	Power Transformer <XX-V>
△	15023602	Power Transformer <UL>
△	15023603	Power Transformer <CSA>
△ 4	46604400	Power Supply Cord <XX-V>
△	48188000	Power Supply Cord <UL>
△	48187700	Power Supply Cord <CSA>
△ 5	46365000	AC Outlet <XX-V>
△	48184400	AC Outlet <UL•CSA>
△ 6	48175200	Voltage Selector Plug <XX-V>

Parts No.	Stock No.	Description
7	46177200	Slide SW., CONTROL
8	46547200	Jack, REMOTE PAUSE
9	48310000	3P Terminal Board, MONITOR
10	48352800	2P Terminal Board, AUDIO INPUT
11	48392300	3P Terminal Board, VCR-A, VCR-B
12	48354000	Jack, MIC
13	48354200	EXT PROCESSOR
14	27095600	Shading Sheet, EXT PROCESSOR
15	48114800	Connector, CAMERA
16	47770900	AC Cord Cover

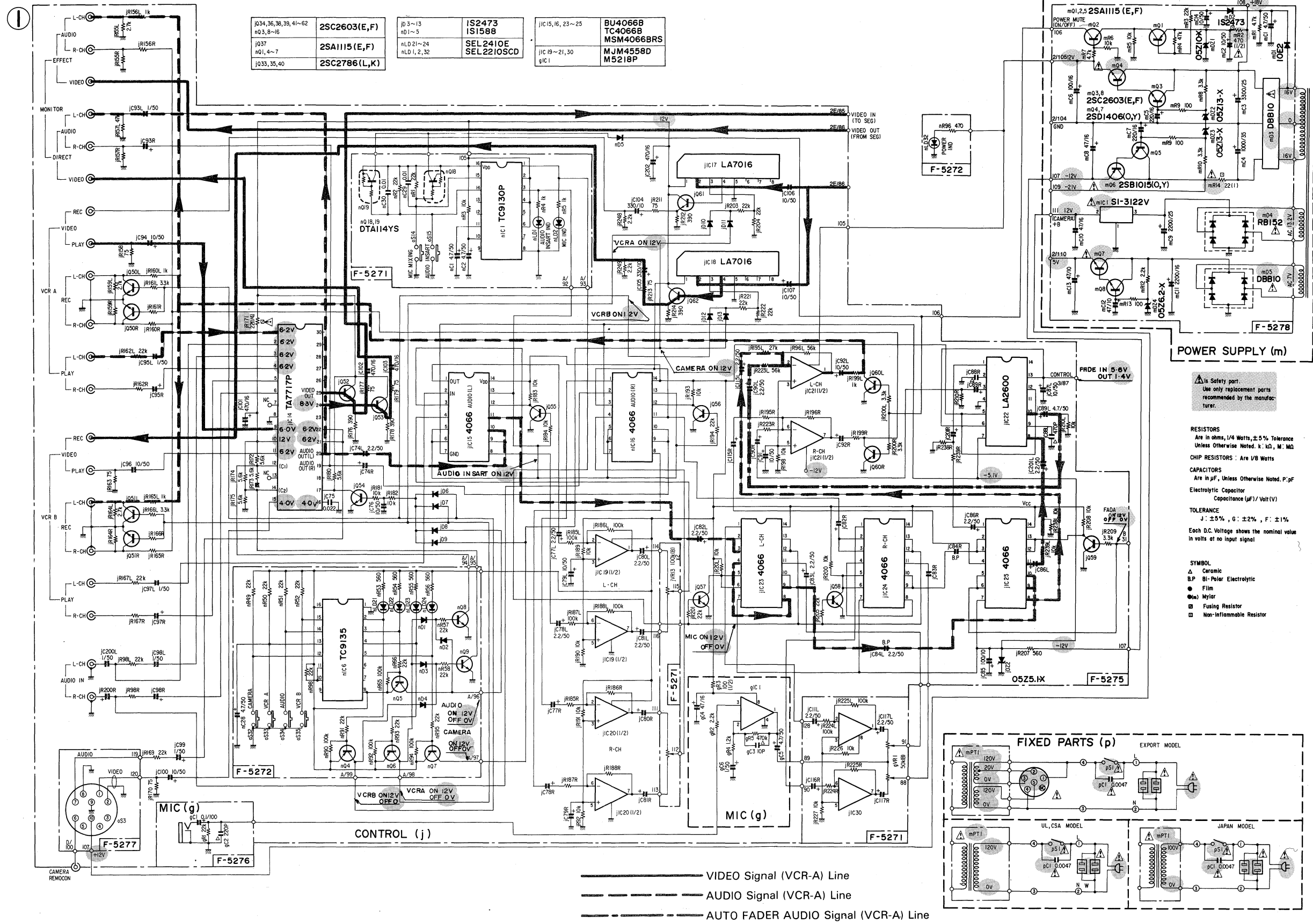
## 6. WIRING DIAGRAM




## 7. SCHEMATIC DIAGRAM

## 7-1. INPUT SELECTOR and AUDIO Section

- \* Design and specifications subject to change without notice for improvement.
- \* La présentation et les spécifications sont susceptibles d'être modifiées sans préavis par suites d'améliorations éventuelles.
- \* Änderungen, die dem technischen Fortschritt dienen, bleiben vorbehalten.




2SA1115  
2SC2603




E C B

2SA1175  
2SC2786  
2SD1406  
DTA114T5  
DTA114Y5  
DTC124X5  
DTC144E5




E C B

2SB1015




B C E

TA7357AP



1 2 3 4 5 6 7 8 9

BA7230LS



1 2 3 4 5 6 7 8 9

BA226  
BU4001B  
BU4011B  
BU4066B  
HD74LS00P  
HD74LS08P  
HD74LS27P  
HD74LS273P  
HD7470T  
IR2P02T  
IR2339  
IR9311  
IR94559  
LA2600  
M74LS08P  
M74LS27P  
M74LS32P  
M74LS86P  
M74LS893P  
M74LS123P  
M74LS148P  
M5218P  
M52407P  
MB74LS00  
MB74LS04R  
MB74LS08M  
MB74LS27  
MB74LS32

MB74LS86  
MB74LS123M  
MSB4013BM  
MSM4001BR5  
MSM4011BR5  
MSM4049BR5  
MSM4066BR5  
MSM4520BR5  
MSM4538R5  
MSM5258BR5  
NJM1372AD  
NJM1496D  
NJM4556D  
NJM4559D  
SNT407N  
TA7717P  
TC74HC00P  
TC4001P  
TC4011P  
TC402BP  
TC4053BP  
TC4079N  
TC4520P  
TC4538BP  
TC9130P  
TC9135P  
UPD4520CB

NJM78M05A NJM79M12A  
NJM78M12A SI-3122V

33 32

1:INPUT(Y*)	1:GND
2:GND	2:OUTPUT

3:OUTPUT	3:INPUT(V)
L78N05	DBB10B


L78N12 DBB10C  
DBB10E  
DBB10G

123 3 4  
1:INPUT  
2:GND RB152  
3:OUTPUT

3-OUTPUT

1S1588

1S2473D



251.224.22

SEL2210S  
SEL2410E

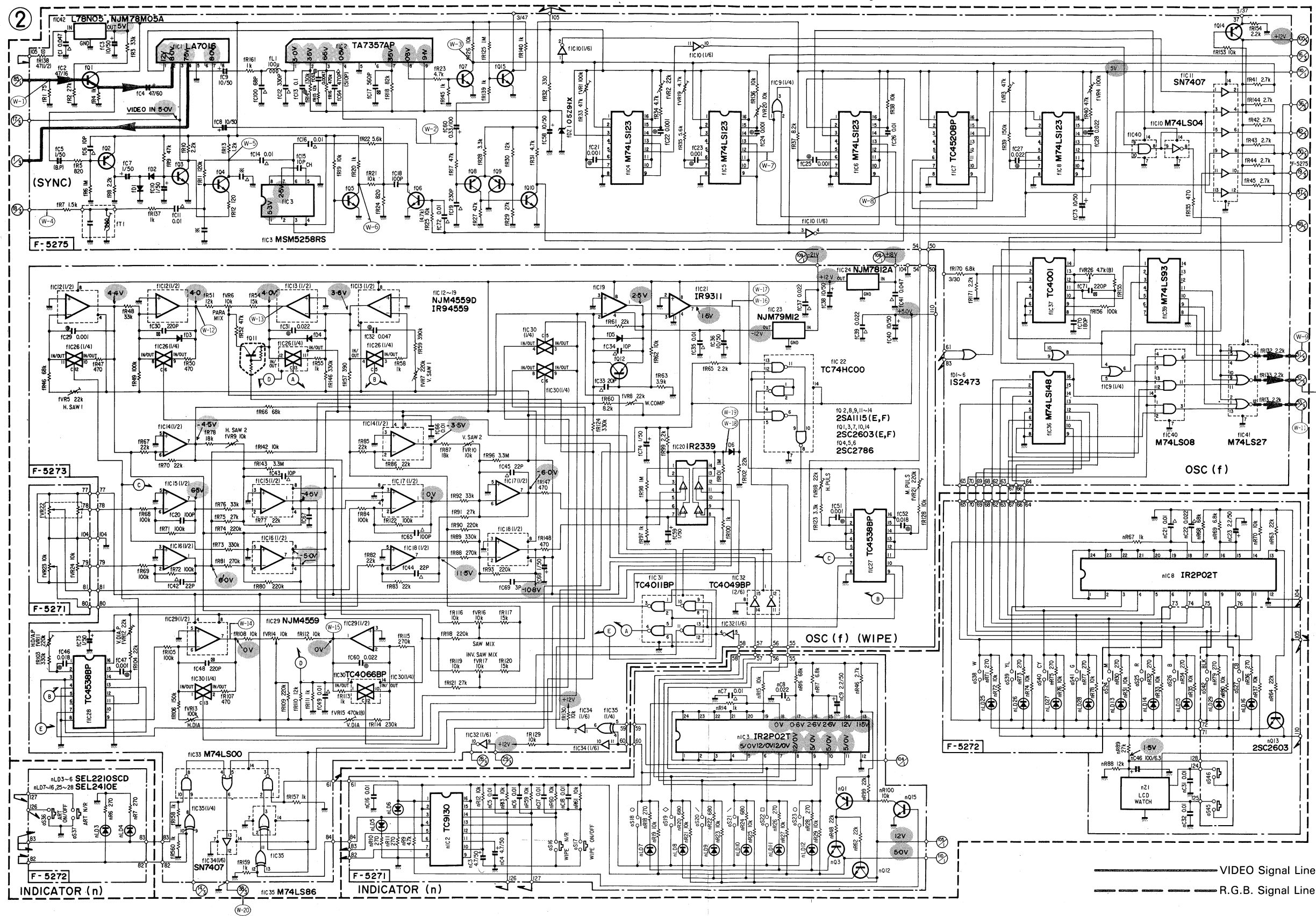
05Z3.9  
05Z5.1  
05Z6.2

05Z9.1  
05Z10  
05Z13




### 7-2-1. SYNC SIG Separator and WIPE PATTERN Generator Section

- \* Design and specifications subject to change without notice for improvement.
- \* La présentation et les spécifications sont susceptibles d'être modifiées sans préavis par suites d'améliorations éventuelles.
- \* Änderungen, die dem technischen Fortschritt dienen, bleiben vorbehalten.




2SA1115  
2SC2603



E C B


2SA1175  
2SC2786  
2SD1406  
DTA114TS  
DTA114YS  
DTC124XS  
DTC144ES

2SB1015



B C E

TA7357AP



B C E A B

BA7230LS

A2226	
UA0010B	MB74LS86
UA0011B	MB74LS123M
UA0066B	MB84013BM
UD74LS00P	MSM4001BR5
UD74LS02P	MSM4001BR5
UD74LS27P	MSM4049BR5
UD74LS123P	MSM4066BR5
UD7407P	MSM4520BR5
2P2320	MSM4538RS
2P3237	MSM5258BR5
31311	NJM1372AD
31315	NJM4965D
A2600	NJM4558AD
74LS08P	NJM4559D
74LS527P	SN7400T
74LS432P	TA7717P
74LS86P	TC74HC00P
74LS123P	TC4011P
74LS148P	TC4049BP
55218P	TC4053BP
553207P	TC4066B
MB74LS00	TC4520P
MB74LS04R	TC4520P
MB74LS08M	TC913P
MB74LS27	TC9135P
MB74LS32	UPD4520BC

Dot or Slit or Line

12 ... n+1

NJM78M05A NJM79M12A  
NJM78M12A SI-3122V


1:INPUT(V <sup>+</sup> )	1:GND
2:GND	2:OUTPUT
3:OUTPUT	3:INPUT(V <sup>-</sup> )

L78N05 DBB10B  
L78N12 DBB10C  
DBB10E  
DBB10G

123  
1:INPUT  
2:GND  
3:OUTPUT

RB152

1S1588



1S2473D

SEL2210S  
SEL2410E

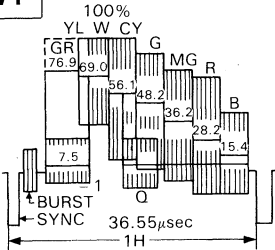
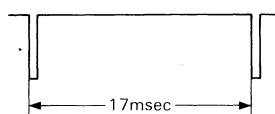
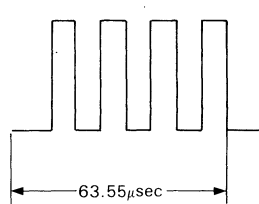
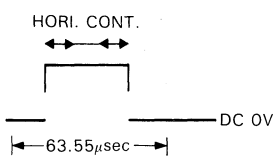
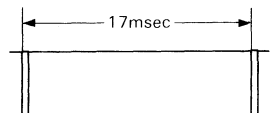
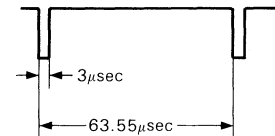
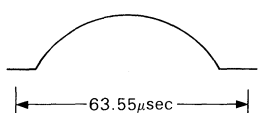
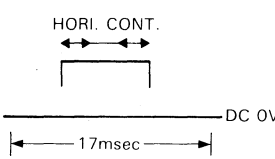
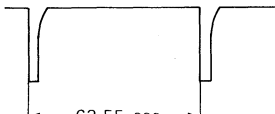
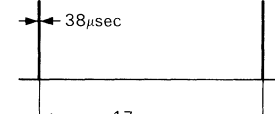
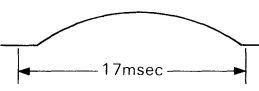
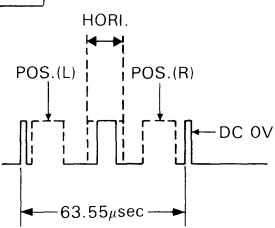
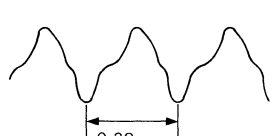
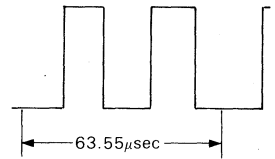
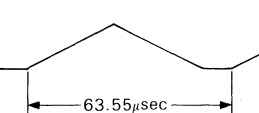
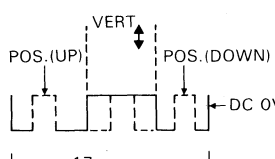
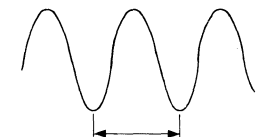
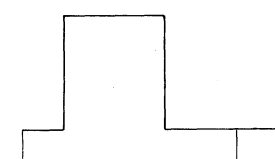
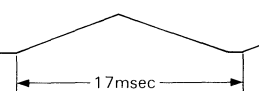
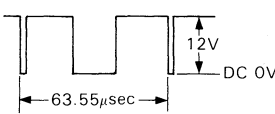
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0525.1  
0526.2  
0529.1  
05210  
05212

— VIDEO Signal Line

----- R.G.B. Signal Line



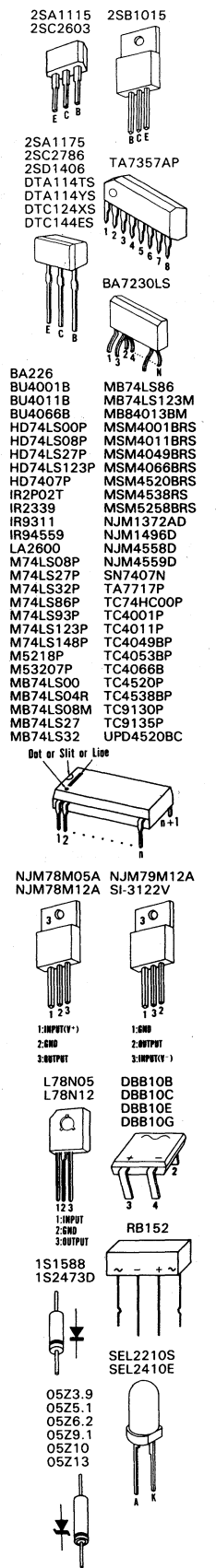
# 7-2-2. Waveforms of SYNC SIG Separator and WIPE PATTERNS Generator

<b>W1</b>  EIA COLOR BAR 0.96Vp-p	<b>W6</b>  H.V COMP SYNC. 5Vp-p	<b>W11</b>  BACK GROUND COLOR: COLOR BAR 0.7Vp-p	<b>W16</b>  WIPE <input checked="" type="checkbox"/> 5Vp-p
<b>W2</b>  H.V COMP. SYNC. 6Vp-p	<b>W7</b>  H.V COMP. SYNC. 3.4Vp-p	<b>W12</b>  WIPE <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> 8Vp-p	<b>W17</b>  WIPE <input checked="" type="checkbox"/> 5Vp-p
<b>W3</b>  H SYNC. 5.2Vp-p	<b>W8</b>  H SYNC. 4.0Vp-p	<b>W13</b>  WIPE <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> 6Vp-p	<b>W18</b>  WIPE <input type="checkbox"/> 16Vp-p
<b>W4</b>  3.579545MHz 1.1Vp-p	<b>W9</b>  BACK GROUND COLOR: COLOR BAR 0.7Vp-p	<b>W14</b>  WIPE <input checked="" type="checkbox"/> 8Vp-p	<b>W19</b>  WIPE <input type="checkbox"/> 16Vp-p
<b>W5</b>  3.579545MHz 2.6Vp-p	<b>W10</b>  BACK GROUND COLOR: COLOR BAR 0.7Vp-p	<b>W15</b>  WIPE <input checked="" type="checkbox"/> 8Vp-p	<b>W20</b>  <input checked="" type="checkbox"/> WIPE VERT. VR CENTER HORI. VR 1/3 PICT. POSI. CENTER

### 7-3-1. Waveforms of COLOR CORRECTOR and AUTO FADER

<b>W1</b>  0.9Vp-p	<b>W6</b>  COLOR LEVEL DEEP 1.5Vp-p	<b>W11</b>  VIDEO ART ON (GREEN) 5Vp-p	<b>W16</b>  BACK GROUND COLOR: COLOR BAR 0.9Vp-p
<b>W2</b>  1.1Vp-p	<b>W7</b>  COLOR LEVEL LIGHT 1.0Vp-p	<b>W12</b>  BACK GROUND COLOR: COLOR BAR 0.8Vp-p	<b>W17</b>  0.7Vp-p
<b>W3</b>  COLOR CORE. WIDE 0.5Vp-p	<b>W8</b>  1.8Vp-p	<b>W13</b>  BACK GROUND COLOR: COLOR BAR 1.1Vp-p	
<b>W4</b>  COLOR CORE. WIDE 0.5Vp-p	<b>W9</b>  1.1Vp-p	<b>W14</b>  BACK GROUND COLOR: COLOR BAR 0.55Vp-p	
<b>W5</b>  COLOR LEVEL DEEP 0.6Vp-p	<b>W10</b>  BACK GROUND COLOR: WHITE 0.6Vp-p	<b>W15</b>  BACK GROUND COLOR: COLOR BAR 0.22Vp-p	

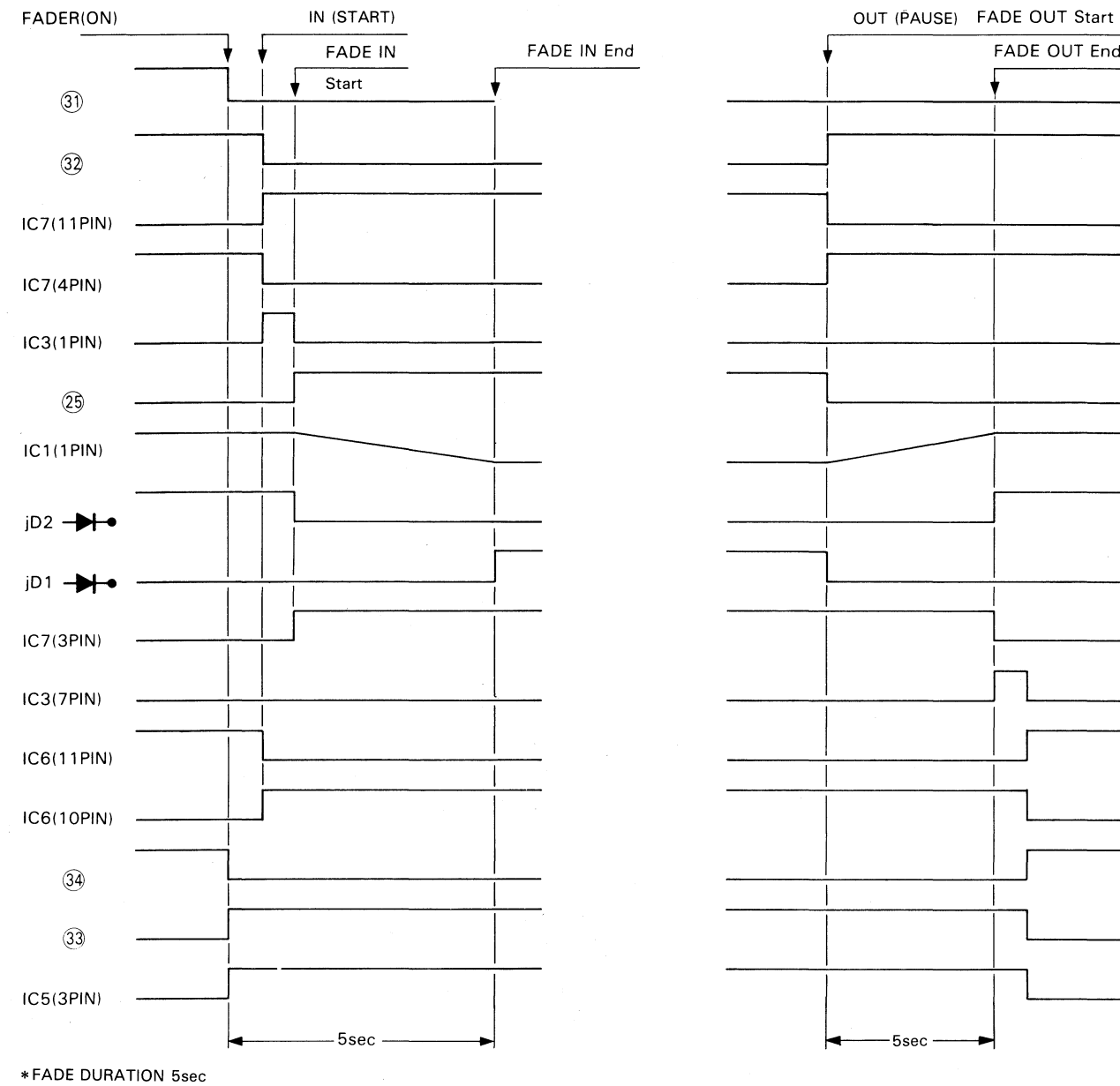
- \* Design and specifications subject to change without notice for improvement.
- \* La présentation et les spécifications sont susceptibles d'être modifiées sans préavis par suites d'améliorations éventuelles.
- \* Änderungen, die dem technischen Fortschritt dienen, bleiben vorbehalten.



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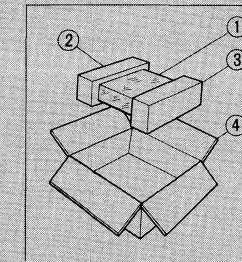


### 7-3-3. AUTO FADER Circuit Timing Chart



### 8. PACKING LIST

Parts No.	Stock No.	Description
1	47858600	Vinyl Cover
2	27096200	Styrofoam Packing (Left)
3	27096300	Styrofoam Packing (Right)
4	27094900	Carton Case



### 9. ACCESSORY LIST

Stock No.	Description
46267300	Mini Plug Cord
48362200	Ultra Mini Plug Cord
38103300	PJP Cord
46991800	Operating Instruction



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